

THE DEPARTMENT OF AGRICULTURE

THE DEPARTMENT OF AGRICULTURE

THE DEPARTMENT OF AGRICULTURE

MONTHLY REPORT

OF

THE DEPARTMENT OF AGRICULTURE,

FOR

THE YEAR 1866.

LIBRARY
NEW YORK
BOTANICAL
GARDEN

J. R. DODGE, EDITOR.

WASHINGTON:
GOVERNMENT PRINTING OFFICE.
1867.

1266

NOTICE.

The matter of the monthly reports is furnished from the records of the Statistical Division of the Department of Agriculture. The crop estimates are only intended to be approximate, for current use in supplying early information in foiling the purposes of reckless speculation. They should not be authoritatively quoted as fully ascertained and precise facts. In general terms, they have proved far more reliable than other reports and estimates. The meteorological data will be found valuable for reference and study.

The first four numbers, up to April, were under the editorship of my predecessor as statistician, Mr. Lewis Bollman.

J. R. D.

WASHINGTON, D. C., 1867.

INDEX.

A.

Agricultural colleges.....	Page. 71
Agricultural statistics of Great Britain.....	340
Agricultural statistics of Ireland.....	383
Agricultural statistics of the United States.....	20, 73, 148, 186, 247, 294, 350, 391, 415
Agricultural statistics of Utah.....	90
Alsike clover.....	435

B.

Beef supplies.....	436
Beet sugar.....	179
Boating to New Orleans.....	286
Bones, dissolving, for fertilizers.....	377
Bots in horses.....	436
British policy.....	388
British revenue, sources of.....	387

C.

California, donations from.....	342
Canadian reciprocity treaty.....	16, 144
Castor-oil bean.....	286
Cattle in Texas.....	343
Cattle plague.....	56, 127, 174, 235, 432
Clothing material, importation of.....	425
Corn and wheat in Chicago and Milwaukee.....	431
Cotton, best sections for.....	233, 280, 329, 421
Cotton, Egyptian.....	417
Cotton, estimated yield of.....	345
Cotton plant, insects injurious to.....	239, 282, 331, 377
Crops, condition of, August, 1866.....	350
Crops, condition of, July, 1866.....	290
Crops, condition of, June, 1866.....	255
Crops, condition of, November and December, 1865.....	25
Crops, condition of, November, 1866.....	442
Crops, condition of, October, 1866.....	391
Crops, condition of, September, 1866.....	355
Crops of 1865.....	19, 73
Crops of Prussia.....	387
Crops, value of, per acre, 1862-1865.....	249

E.

England, food of.....	434
English crops and prices.....	210
English markets.....	18
Europe, farm stock in.....	246
Exhibition at Rio Janeiro.....	235
Exports and imports.....	18, 28, 67, 86, 207, 243, 302, 425, 432
Experimental farm.....	241

F.

Farm stock in Europe.....	246
Farm stock in Switzerland.....	430
Farm stock in United States.....	148, 186, 246
Flax appropriation.....	285
Forests, area in.....	385
Freedmen's labor.....	346
French industry, items of.....	428

G.

Grapes, analysis of.....	337
Grapes, Isabella, in South Carolina.....	426
Great Britain, agricultural productions and manufactures of.....	433
Great Britain, agricultural statistics of.....	340
Great Britain, imports of.....	11, 18, 243, 338
Great Britain, policy of.....	388
Great Britain, rinderpest in.....	432
Great Britain, sources of revenue of.....	387

H.

Hog cholera.....	56, 127
------------------	---------

I.

Immigration.....	154
Imports and exports.....	18, 28, 67, 86, 207, 243, 302, 425, 432
Insects.....	239, 282, 287, 331, 343, 388, 421
Internal revenue.....	146
Ireland, agricultural statistics of.....	383

L.

Laboratory of department.....	420
Lake Michigan, eastern shore of.....	415

M.

Madder.....	94
Meteorology.....	36, 102, 153, 155, 212, 260, 307, 357, 398, 447
Minnesota, wheat crop of.....	12
Monthly reports among the farmers.....	15

N.

New Mexico, wine in.....	424
--------------------------	-----

P.

Prices of farm produce.....	207
Probstier outs.....	436
Prussia, crops of.....	387

R.

Railroad freights from Chicago.....	27, 70
Rinderpest.....	56, 127, 174, 235, 432
Rinderpest in Great Britain.....	432
Rio Janeiro, exhibition at.....	235
Rocky mountain areas.....	379

S.

Scotland, wheat experiments in.....	386
Sheep, condition of.....	288
Sheep, killed by dogs.....	183
Sorghum, analysis of.....	336
South Carolina, Isabella grape in.....	426
Southern industry.....	412
Sugar beet.....	179
Sugar cane, deterioration of.....	341
Switzerland, farm stock in.....	430

T.

Texas, cattle in.....	343
Timber, preservation of.....	142, 382
Tobacconists, convention of.....	4
Transportation.....	27, 70
Trees on the prairies.....	286
Trichina.....	56, 127, 428

U.

Utah, agricultural statistics of.....	90
United States, farm stock in.....	148, 186, 246

V.

Virginia, tide-water regions of.....	413
--------------------------------------	-----

W.

Weights and measures.....	27
Wheat crop of Minnesota in 1865.....	12
Wheat experiments in Scotland.....	386
Wine in New Mexico.....	424
Wood, preservation of.....	287
Wool-growing interest.....	66
Wool, production and consumption of.....	297

MONTHLY REPORT

OF THE

DEPARTMENT OF AGRICULTURE

FOR

JANUARY, 1866.

WASHINGTON:
GOVERNMENT PRINTING OFFICE.
1866. /

MONTHLY REPORT.

DEPARTMENT OF AGRICULTURE,

Washington, January, 1866.

The report for this month has several statistical tables relative to the imports, exports, and value of leading articles produced or consumed in the United States. The greatly decreased importation of foreign wool in 1865, being 22,541,674 pounds, is a gratifying decrease, for it shows the progress that is making in supplying the domestic demands of the country in a commodity so essential to its wants and comfort. But the increased import of woollen goods, being in value \$4,632,620, shows that there is still a demand upon both the grower and manufacturer of wool which they should meet, and which they ought under the present high tariff duties. We import nearly a million dollars' worth of cigars; these, we suppose, are mostly of the best Havana; but if, as is alleged by the cigar manufacturer, this import is occasioned by the internal tax being greater than the duty on the foreign article, such an inequality ought not to be permitted.

The adjustment of the claims of different interests affected by the internal taxes and the tariff duties is a subject now earnestly pressed upon the attention of Congress. Several conventions, representing the growers of the raw material and of its manufacture, have been held, and their delegates sent to this city. Views have been advanced which I regard as in conflict with the welfare of the farmer, and claims made antagonistical to his equal rights. The leading article in this report reviews some of them. Whilst all classes should be ready to meet their equal share of the public burdens, none of them should seek exemption, especially by the oppression of others.

In this report will be found an article in reply to complaints from individuals in Minnesota against the estimate made by this department of the wheat crop for 1865 of that State. No other basis of error has been presented than an alleged export of wheat in 1865 from several localities in that State, amounting to between seven and eight millions of bushels; yet the most prominent objector to the correctness of the estimate of the department, in a published letter, says:

"Owing to the low stage of water in the Minnesota river for the last *three* years *immense* quantities of wheat have *accumulated* in the southern and western sections of the State."

This declaration sweeps away the very grounds upon which an error is alleged in the estimates of the department.

Every person holding an important official position is subject to the scrutiny of all. This is right, for it is one of the best safeguards against official wrongs; but such scrutiny should be exercised in good faith: it should have a greater regard to public good than to private and personal objects. To distinguish whether an objector is governed by the one or the other is not at all times

easily done ; but his motives may be regarded as honest when he personally assumes the responsibility of his accusations, and clothes them in specific charges, and does not make them in vague generalities. Some agricultural and horticultural associations have passed resolutions unfavorable to my continuation in office. Whilst I much desire the approbation of all persons, especially those connected with agriculture, I cannot hope to escape the enmity of those who have selfish purposes to accomplish. In the execution of the duties and trusts confided to me as Commissioner of Agriculture, I am often compelled by a sense of duty to deny to individuals the opportunity of taking the funds of the department without rendering a proper service therefor. I have to reject schemes which have personal gain much more in view than the advancement of agriculture. This action on my part creates hostility, which is manifested, not by specific charges of official wrong-doing on my part, and which I could answer, but in secret correspondence and private conversations, by which well-meaning but unreflecting persons are misled and induced to consent to the adoption of the resolutions referred to. I pray them to remember that truth and honesty always act openly, and in person state the wrongs they seek to have remedied ; that a selfish dishonesty seeks to make others the accusers, and clothes the accusation in general terms, that present nothing to be answered.

To those associations and individuals who have expressed their approbation of my official conduct, and point to the good accomplished by this department as the evidence of its correct management, I return my warmest acknowledgments. It has always been my aim to render practical benefits to the farmer ; that the publications of the department are of this character is not denied ; that the seeds and plants distributed have been useful is admitted.

I have recently received eighty pounds of tobacco seed of the best Havana variety, by Wm. T. Minor, our consul general at Havana, and presented to the Department of Agriculture by Don Miguel de la Vega, through his friend, Dr. Leopold Winterhalter. I return to these gentlemen my kindest regards for their gift, the value of which will be appreciated by the tobacco-growers of the United States.

ISAAC NEWTON, *Commissioner.*

THE RECENT CONVENTION OF TOBACCONISTS

AT COOPER INSTITUTE, NEW YORK.

Their resolutions.—Views of Mr. Burke, secretary of the convention, reviewed.—Intended efforts to subject agricultural products to internal taxes and export duties.

In November last a convention of the manufacturers of tobacco was held in New York. The resolutions adopted by it ask Congress to transfer the internal tax now levied on manufactured tobacco, from it to the leaf, and express the opinion that such change could work no injury to the growers. It is scarcely necessary to say that in this opinion we do not at all concur. Heretofore we

have stated also that we regard the existing taxes on the manufactured article as so great that they are lessening the use of tobacco, and in the end will defeat their sole purpose—the collection of revenue—and will also injure the grower by lessening the demand for the leaf.

The published proceedings of this convention have been laid before us by their able secretary, Mr. Edward Burke, and his own address constitutes the most important part of the proceedings. In so doing, our attention has been called to the paragraph on the 11th page, but it is one that arrested our attention when first reading his address as published in one of the New York papers.

We propose to examine the principle embodied in this paragraph, and in so doing shall give our dissent plainly and freely, but we trust not disrespectfully to one for whom we have no other feeling than the greatest respect and admiration for the candid expression of his opinions.

The paragraph referred to reads as follows :

“In its tobacco trade this country has one of the most fruitful elements of national wealth that ever blessed a nation, and in its encouragement and direction our statesmen have one of the most interesting industrial problems that ever exercised the human intellect. The crop of 1860, before alluded to, and the recorded manufacture of 1864, requiring in its conversion about 93,000,000 pounds of leaf, with the annual exports averaging in the neighborhood of 150,000,000 pounds, convey a comparative idea of the resources and importance of the interest. To direct this interest aright, the government must take hold of it—must grasp it—must clutch it with hooks of steel and bands of iron. Men must not have the opportunity to manufacture tobacco without assessment in the towns or *use it in the raw state in the country*. To prevent this is a duty which the government owes not less to itself than to the manufacturers. Under any system, it is to the manufacturers it must look for its revenue; and it is bound by every moral tie to see that no impediment stands between them and the highest degree of prosperity. In a death-grapple like this which the nation is engaged with insolvency, when it is calling upon every man to give his mite, country people have no more right to use tobacco in the natural state than the residents of the city have to manufacture it and evade the tax, or than either have to smuggle goods through the custom-house, or to rob a bank. The government calls upon the manufacturers for the tax; it stands face to face with them; it calls upon them alone; there is no middle man between; the question is not between government and producers; it is between government and manufacturers, and manufacturers, by virtue of this responsibility, are entitled to every guarantee that can be thrown around them. *They should have a perpetual lien on the entire consumption of the country; they should dictate what might be used; it is their indefeasible right under the circumstances, and the government will be unmindful of its duty if it do not secure that right to them.* This is justice, simple justice—nothing more. Not to do this, is to bid a mason or carpenter to build a house and withhold from him the materials to do it with. *While manufactured tobacco in every form is taxed, no man should be allowed to taste a morsel of unmanufactured tobacco in any form.* And this should be the case whether the limitation yielded a larger or smaller revenue. *This is the view taken by European governments of the question, and it is the only view that can be taken if the welfare of the trade be regarded. To him who under-estimates the amount of illicit manufacture carried on in populous cities, and who knows nothing of the quantity consumed in the raw state elsewhere, a restriction such as this would seem to verge on sumptuary despotism.* But let him once learn to what an extent the former prevails, equalling, as is conceived, well-nigh half the legitimate manufacture, and then let him take a journey through the States and see, as I have recently seen, the large number who draw the rudely-twisted leaf just as it leaves the stalks from their pouches, and the demand will not appear illiberal. Ask the soldier what is the practice in the south among the common people. South, north, east, and west, the practice of using tobacco in the natural state prevails, and always did—now more than ever; but it should be permitted to prevail nowhere. On every pound raised and consumed in the country the government, first, to the extent of the tax sought from it, and *the manufacturers, second, have a prior claim;* and whatever impairs the value of that claim defrauds the one and robs the other. Every pound raised and consumed here, while internal revenue is a necessity, should be made amenable to taxation, or the treasury will be cheated of its dues, and *the prerogatives of manufacturers shamefully infringed.*”

The words *italicised* have been so by us, that the attention of the reader might the more readily be drawn to those parts which embody the principle we

cannot but strongly condemn. This principle is, that when government taxes an article it confers a monopoly or "prerogative" upon the person so paying it, over the article upon which the duty is paid, and upon all like articles coming in competition with it. If this be so, let us see where government and individuals would find themselves. The importer brings all kinds of woollen goods into the United States, and pays a heavy duty upon them. With like justice he may assume that no woollen goods should be manufactured and consumed that did not pay a tax equal to this duty. His payment of the duties gives him a "lien, a prerogative" over the farmers' wool and his household manufactures. The domestic flannels and jeans must pay an internal tax equal to the duty paid by this importer on like flannels and jeans. If he is not required to do this, "the prerogative of the importer is shamefully infringed." Should the farmer buy some cotton sheeting, and fill between an under and upper sheet of it a layer of wool, and stitch them together so as to make a comfort, it is a use of his wool, like his present use of his unmanufactured tobacco, and upon this use of the wool he must pay an internal tax equal to the duty paid by the importer on comforts. That the treasury might not be cheated of its dues, and the prerogative of the importer not be shamefully infringed; that these "prior claims" over that of the grower of the wool to his home use of it, might be duly enforced, a host of treasury officials would fill every neighborhood, to search the bedding and the under-garments of the farmer's family; or to avoid his wrath, the treasury would furnish each one of these officials with a spy-glass, and declare by an act of Congress, duly passed and approved, that Monday should be the common wash-day of the country, and the clothes-line be placed in some open space which could be clearly viewed through these glasses, at a safe distance to the treasury officials. No farmer, or farmer's wife or daughter, should be allowed to have more than a single change of woollen garments, that the clothes-line might be a waving attestation to the number had by the household. The justice of these taxes is apparent, for "while imported woollens in every form pay duties, no man should be allowed to manufacture for himself a pound of his home-grown wool." The policy of appointing this host of officials is also seen in the fact, that now "well-nigh half the manufactured tobacco is disposed of in populous cities by an illicit commerce."

Assumptions of such prerogatives call to mind what Hume has written of the monopolies granted by Elizabeth; who, like our government, was "often engaged in a death-grapple with insolvency."

"The active reign of Elizabeth," says Hume, "had enabled many persons to distinguish themselves in civil and military employments; and the queen, who was not able, from her revenue, to give them any rewards proportioned to their services, had made use of an expedient which had been employed by her predecessor, but which had never been carried to such an extreme as under her administration. She granted her servants and courtiers patents for monopolies; and these patents they sold to others, who were thereby enabled to raise commodities to what price they pleased, and who put invincible restraints upon all commerce, industry, and emulation in the arts. It is astonishing to consider the number and importance of those commodities which were thus assigned over to patentees: currants, salt, iron, powder, cards, calf-skins, felds, pouldavies, ox shin-bones, train-oil, lists of cloth, potashes, aniseeds, vinegar, sea-coals, steel, aqua vitæ, brushes, pots, bottles, saltpetre, lead, accidence, oil, calamine-stone, oil of blubber, glasses, paper starch, tin, sulphur, new drapery.

dried pilchards, transportation of iron ordnance, of lace, of horn, of leather, importation of Spanish wool, of Irish yarn—these are but a part of the commodities which had been appropriated to monopolists. When this list was read in the House (of Commons) a member cried, *Is not bread in the number? Bread!* said every one in astonishment. *Yes, I assure you,* replied he, *if affairs go on at this rate we shall have bread reduced to a monopoly before next Parliament."*

Let no one suppose that the farmers of this free country would be in better condition if the claims put forth by Mr. Burke were recognized. Everything would be turned into a monopoly by legislation to enforce the "prerogatives of the manufacturer." Let us look into the proceedings of this convention and see what was attempted last session. Its president, Mr. William E. Lawrence, thus speaks to it, in his remarks as the presiding officer :

"When, about a year since, we met in convention, the object of which was similar to that of the one now assembled, it was determined to use all possible influence to induce the government to transfer the tax on tobacco from the manufactured article to the leaf. After the termination of that convention a committee was appointed, by authority of the convention, to visit Washington for the purpose of using its best efforts to accomplish that result. As one of that committee I may say to you, we met Senator Sherman, chairman of the Finance Committee, who gave us every opportunity to present our views to the honorable body over which he presided. We also saw Judge Lewis, then Commissioner of Internal Revenue, who accompanied us to the committees of both houses of Congress before which it was proper for us to appear. We urged the remission of the tax upon the manufactured article of tobacco and its transfer to the leaf; that the manufacturer would pay the tax, and that it should be estimated on the leaf instead of the manufactures. We have reason to believe a majority of the committee were in favor of our plan, as was also the Secretary of the Treasury, Mr. Fessenden. The distinguished chairman of the Committee of Ways and Means, Hon. Thaddeus Stevens, favored our views, and introduced a bill in the House in aid of the movement. Unhappily, however, he thought it advisable to insert in his bill a clause which at once proved fatal to our interests in the last Congress—a clause which authorized a tax on exported tobacco."

As the same claims will, doubtless, be renewed the present session, let us look into this bill of Mr. Stevens, that we may see what would have been its effect on the tobacco-grower, both with and without the clause authorizing an export tax. The leading provisions of the bill are as follows, quoting from memory :

1. Leaf tobacco was to be taxed from twenty to thirty cents per pound.
2. All existing taxes on manufactured tobacco were to be repealed.
3. A bonus of twenty-five cents per pound was to be allowed the manufacturer for all manufactured tobacco exported by him.
4. An export duty of — cents per pound was to be levied on all leaf tobacco exported. The amount of this export duty is not recollected.

A few days afterwards Mr. Stevens introduced another bill, very different in its provisions, but still, under its provisions leaf tobacco would have been taxed the same.

The first of these bills is the one referred to by Mr. Lawrence, because the second one did not propose an export duty, and retained certain taxes on the manufactured article. The first one, then, with the exception of the export duty, may be regarded as the manufacturer's bill—the other as indicating the views of Mr. Stevens. We know that Senator Sherman did not concur in the views of this committee of tobaccoists.

In the bi-monthly report for January and February, 1864, we showed that from 1841 to 1850, both inclusive, the average price of tobacco leaf at New York was 5½ cents, and that during these low rates the cultivation of tobacco declined from 219,607,739 pounds in 1840 to 199,736,336 pounds in 1850; that

from 1851 to 1860, inclusive, the average price was $9\frac{1}{2}$ cents, and under these more remunerative rates this product assumed the greatness it had attained in 1860. We also showed that this advance of price greatly limited the export trade, its increase in the last named decade being but 68,638 hogsheads, or 6,863 in each year; and that it was the greatly increased home consumption that sustained these improved prices between 1850 and 1860, thereby elevating this agricultural product to what Mr. Burke justly characterizes it, as being "one of the most fruitful elements of national wealth that ever blest a nation." Its export amounted to \$20,000,000 annually. This favorable change we see was brought about by an average advance on the price of tobacco leaf of $3\frac{3}{4}$ cents per pound. The bill proposed to tax it 20 and 30 cents per pound.

Who, then, does not see the utter prostration that must instantly overwhelm the grower of the leaf when a tax of 225 per cent. is proposed to be levied upon it? By what right, too, shall the growers' labor be taxed and the manufacturers' labor be untaxed? Nay, the bill goes far beyond this in its injustice; it proposed to give the latter a bonus of 25 cents per pound for all of the manufactured article exported.

The proposed export duty would have been useless against such an internal tax, and such a bonus, for these would have destroyed all exportation of the leaf. With such a destruction, and with the vastly decreased home consumption occasioned by this enormous tax upon it, who does not see how unprofitable must tobacco production have become? A monopoly of the entire growth of the leaf would be given to the manufacturer, and this associated trade at New York would dictate such prices as its own interests prompted. What would these be? We will find the answer in the continuation of Hume's remarks upon the effect of the monopolies given by Elizabeth. He says:

"These monopolists were so exorbitant in their demands that, in some places, they raised the price of salt from sixteen pence a bushel to fourteen or fifteen shillings. Such high profits naturally begat intruders upon their commerce; and in order to secure themselves against encroachments, the patentees were armed with high and arbitrary powers from the council, by which they were enabled to oppress the people at pleasure, and to exact money from such as they thought proper to accuse of interfering with their patent. The patentees of saltpetre having the power of entering into every house, and of committing what havoc they pleased in stables, cellars, or wherever they suspected saltpetre might be gathered, commonly extorted money from those who desired to free themselves from this damage or trouble. And while all domestic intercourse was thus restrained, lest any scope should remain for industry, almost every species of foreign commerce was confined to exclusive companies, who bought and sold at any price that they themselves thought proper to offer or exact."

The grower of tobacco, when stripping, twisting, packing, and pressing it, must be watched lest he take a chew or fill his pipe. Upon the delivery of every hogshead he must, under penalty of its forfeiture, swear that he has neither taken such a chew nor filled his pipe. Government is not to be defrauded out of its thirty cents per pound, nor are the "prerogatives of the manufacturer to be shamefully infringed," and therefore both the government and the manufacturer are to be armed with like high and arbitrary powers that the English council conferred on the patentees of the monopolies under Elizabeth. If manufacturers, as is alleged by Mr. Burke, now illegally and fraudulently sell one-half of the manufactured tobacco, in violation of the existing law, who does not see

the high powers essential to the enforcement of due respect to "these prerogatives of the manufacturers?"

But let us see upon what grounds these assumptions of "prerogative" are put forth. It is alleged that the manufacturers pay the taxes to the government. "The government calls upon the manufacturers for the tax; it stands face to face with them; it calls upon them alone; there is no middle man between; the question is not between government and producers; it is between government and manufacturers;" therefore, "*they* should have a perpetual lien on the entire consumption of the country; *they* should *dictate* what might be used; it is their *indefeasible* right under the circumstances."

We dissent altogether. They pay taxes on what they sell only, not on the entire consumption of the country. As well might the importer put forth like pretensions, or the wool manufacturer, on all woollens, make like assumptions. But is this tax a gratuity? Who repays it to them, with a profit on the advanced tax, too, but the consumer? Ask the consumer of tobacco, whether he chews or smokes, what is the difference to him now and before the internal tax, and the answer will sustain the declaration that the price embraces more than the tax. If the tax was a gratuity to government on their part, there might be some show of justice in such pretensions. But the consumer is a party who is carefully kept out of sight by Mr. Burke. In a word, these claims to prerogative are most extraordinary. But we admire the boldness of their statement; for the special privileges demanded are asked for with less honesty by other manufacturers, under a guise of "protection," when already sharing an annual dividend of from 40 to 65 per cent.

The New York *Economist*, of January 20, says:

"Several large New England manufacturing companies have declared dividends ranging from 20 to 30 per cent. upon the last half year's business. The Androscoggin, Appleton, Bates, Chicopee, Lancaster, Lauddon, and Nashua companies, with an aggregate capital of \$5,045,000, have declared dividends, for six months, amounting to \$1,212,250, or at the rate of 48 per cent. per annum; that twenty-nine of the leading corporations, with an aggregate capital of about \$29,000,000, declare dividends for the six months amounting to \$3,374,500, which is equivalent to 22½ per cent. per annum; that besides these disbursements of interest, several of the companies have laid aside large reserves for extending their works or increasing their working capital."

Whilst these dividends have been made, wool has been falling in price, tobacco is fast receding to its rates before the war, and the tables of the prices of leading agricultural products, which we publish in this report, exhibit the heavy decline they have met with since January, 1865.

Whilst prices are in this changing state, in consequence, partly, of the cessation of the war, partly because of a better supply and a more limited demand, it would be most unwise to adopt such radical legislation as contemplated by some. Great interests should not be jeopardized at any time, much less now, when the changing condition of all things does not indicate their future state when in repose. But if European legislation in regard to tobacco is to govern this country, then Congress should make its manufacture, as well as the growth of the leaf, a government monopoly.

We have dwelt thus long on the principle advocated by Mr. Burke because it has as much applicability to all other manufacturers as to the tobaccoist, and to

all importers, and because such prerogatives have been much oftener conferred on them than has been consistent with the equal rights of the producer of the raw material and the consumer of the manufactured article.

Whilst opposing these extraordinary demands, we have ever been ready to sympathize with the manufacturers in any evil they may suffer. But the proper remedy is not to throw burdens off their own shoulders to crush down a class whose investments, more than those of any other class, yield the least profit, although denying to itself those living expenses and gratifications which the citizens following commerce and manufactures enjoy. The ability of Mr. Burke should have been exercised in examining the right and policy of government to select occupations acknowledged to be lawful, to bear a burden heavier than others. He should have inquired whether the *business* of a country can be taxed without prejudice to individual equality or the ultimate depression of that business. He should have discussed great principles—those befitting this age and nation—and not cited “the view taken by European governments,” which have not advanced beyond the principles embodied in the monopolies of Queen Elizabeth.

But there remains to be stated and considered our chief purpose in referring to these views of Mr. Burke. We see everywhere “cropping out” a determined purpose to burden the agricultural productions of this country with heavy taxes and duties, that their exportation may be destroyed, in order that manufacturers may command these at their own dictated terms. We have, over and over again, because of its vast importance, called attention to the fact that exports and imports are the chief regulators of prices in every country. In nations having no foreign commerce, as in Japan and China, agricultural products are almost without value. Over-production sinks prices to the lowest point. But foreign exports raise the prices of home consumption to the level of those abroad. They relieve the home markets of a surplus, as well as fix the rate of prices. So imports depress home prices to the level of foreign prices, and hence it is that, to raise this level, high duties are demanded by protectionists, or, in the more manly, because more candid, expression of Mr. Burke, to the level of “the prerogatives of the manufacturer”—to the “perpetual lien on the entire consumption of the country,” which they assume to be a part of these prerogatives.

In the bi-monthly report of January and February, 1864, it was shown at length that our leaf tobacco barely held, because of its better quality, the export trade it enjoyed; that the tobacco production of European nations constantly competed with it, so that, under the improved prices here between 1850 and 1860, by a greatly increased home consumption, its export scarcely increased during this decade. We hold our agricultural export trade in all leading articles upon precisely the same conditions. The war demand for breadstuffs, and the short corn crops, raised the price of wheat during the last year above the ordinary rates of export prices, and the result is seen in the following table of British imports for the past eleven months:

Imports of wheat and flour into Great Britain in eleven months of 1864 and 1865.

Countries.	1864.	1864.	1865.	1865.
WHEAT.	<i>Pounds.</i>	<i>Bushels.</i>	<i>Pounds.</i>	<i>Bushels.</i>
Russia.....	527,689,120	8,794,818 $\frac{3}{4}$	798,293,888	13,304,898
Prussia.....	511,413,984	8,573,566 $\frac{1}{2}$	563,842,272	9,397,371 $\frac{1}{2}$
Denmark.....	79,534,672	1,325,577 $\frac{1}{2}$	67,613,392	11,268,898 $\frac{1}{2}$
Schleswig, Holstein, and Lauenburg.....	27,900,656	465,011	28,087,584	468,126 $\frac{3}{4}$
Mechlenburg.....	69,495,776	11,582,629 $\frac{1}{2}$	67,601,184	11,266,864
Hanse Towns.....	54,240,256	904,004 $\frac{1}{2}$	51,373,504	856,225
France.....	62,103,664	1,035,061 $\frac{1}{6}$	186,312,224	3,105,203
Turkey, Wallachia, and Moldavia.....	49,938,192	832,303 $\frac{1}{2}$	63,004,592	1,050,076
Egypt.....	40,089,440	668,157 $\frac{1}{2}$	227,056	3,784 $\frac{1}{2}$
United States.....	877,634,040	14,627,234	113,851,472	1,897,524 $\frac{3}{4}$
British North America.....	150,438,224	2,173,970 $\frac{3}{4}$	32,963,392	549,380 $\frac{1}{2}$
Other countries.....	45,536,848	758,947 $\frac{1}{2}$	104,344,912	1,739,681 $\frac{3}{4}$
WHEAT MEAL AND FLOUR.				
Hanse Towns.....	34,425,112	.....	24,963,568	.....
France.....	185,864,448	.....	263,967,616	.....
United States.....	194,590,704	.....	26,496,912	.....
British North America.....	42,949,120	.....	18,666,256	.....
Other countries.....	12,684,784	.....	17,479,840	.....

France, Russia, and Prussia are our rivals in the English markets for bread-stuffs. During the last year, when British crops had returned to the ordinary yield, we could not have access to her markets for the causes just stated. Still greater, with a more intense rivalry, do the European nations compete against our tobacco production. We cannot export wool against South America, the Cape of Good Hope, and Australia. And now our cotton, thought to be king, must henceforth encounter rivals, not unworthy of regal position, as will be seen from the following table of British imports of cotton during eleven months of 1865:

Import of raw cotton into Great Britain for eleven months of 1864 and 1865.

	1864	1865.
From United States.....pounds..	13,338,640	48,582,576
Bahamas and Bermuda.....pounds..	36,958,880	17,773,984
Mexico.....pounds..	22,181,152	35,915,856
Brazil.....pounds..	52,298,560	43,769,376
Turkey.....pounds..	17,207,344	20,896,176
Egypt.....pounds..	102,169,424	148,746,204
British East Indies.....pounds..	423,870,944	383,356,960
China.....pounds..	77,458,528	35,373,632
Other countries.....pounds..	32,520,880	43,564,272
	<u>768,004,352</u>	<u>777,979,036</u>

This table is most significant. It exhibits the capability of the British East Indies to grow large quantities of cotton. Fortunately for us, it is of an inferior quality, our climate being superior to that of India for cotton production, as was shown in the bi-monthly report for November and December, 1864. But it will come into more active competition with our own in *proportion as the price of our own may be enhanced by an internal tax or an export duty*. The increased importation from Egypt is most of all others significant. Whilst the dry trade-wind summer climates cannot grow a cotton equal to that of the showery climate of our southern States, yet Egypt, by its *irrigation* and its low rich soil, does grow a cotton in quality rivalling our own. Its success in cotton production has been such as to revolutionize its agriculture. From an exporting nation of breadstuffs it has become an importing one. The British import of wheat from Egypt in 1864 was 668,157 bushels; in 1865 it was but 3,784; but its importation of cotton increased in the same time 46,576,780 pounds. British capital has largely passed into Egypt to aid its cotton agriculture, because the quality is what Britain most needs to be independent of us. Cotton, therefore, cannot now bear an export duty, as it might have done before the rebellion had taught the nations of the earth their capacity in cotton production.

Under the disguise of payment of the public debt, protectionists will be found demanding export duties and internal taxes on these leading products of American agriculture, that their export may be annihilated, and the growers rendered tributary to the manufacturing interests. But let us say, very plainly, that all such legislation will but exhibit a vain attempt to assume a "prerogative," which never will be admitted. Thank God! the agriculturists of this country are not now as they were ten years ago, when the Canadian reciprocity treaty was consummated. They are now, through the State, and county, and other associations, an organized body, with power to protect themselves. We deprecate any alienation between the grower of the raw material and the manufacturer, but the rights of the grower must be respected.

And why this struggle? During the decade between 1850 and 1860 the value of our domestic manufactures advanced from \$1,019,106,616 to an aggregate of \$1,900,000,000, an increase of 86 per cent; and this, too, under low tariff duties, known as free trade. Now these duties are vastly increased by the necessities for revenue. Let this suffice. Export duties were most determinately forbidden by the framers of the Constitution; let us abide by their action. Extremes beget extremes.

"He who of old would rend the oak
Dreaned not of its rebound."

THE WHEAT CROP OF MINNESOTA FOR 1865.

The *Winona Daily Republican*, Minnesota, of January 9, 1866, has the following editorial relative to the amount of the wheat crop of that State, as estimated by this department:

"In reply to the inquiry of a gentleman in Illinois, who is collecting facts bearing upon the question of transportation between the west and the east, Mr. Newton, the Commissioner of Agriculture, furnishes the following estimate of wheat, rye, barley, and oats produced in the northwest for the year 1865 :

	Wheat.	Rye.	Barley.	Oats.
Indiana.....bushels..	13,020,803	371,123	350,504	3,062,351
Michigan.....bushels..	16,378,488	413,150	391,562	7,275,331
Illinois.....bushels..	25,266,745	833,069	1,058,931	27,088,197
Wisconsin.....bushels..	20,307,920	945,400	843,649	18,466,758
Minnesota.....bushels..	3,425,467	178,171	178,310	3,388,848
Iowa.....bushels..	13,698,542	119,333	561,068	12,007,380
Missouri.....bushels..	2,953,363	218,529	148,855	2,501,013
Kansas.....bushels..	191,519	4,061	6,661	155,290
Nebraska.....bushels..	166,348	2,080	6,297	335,929
Total.....	95,409,195	3,084,916	3,545,837	80,281,094

We do not know how near right Mr. Newton is in his estimates for other States, but in the case of Minnesota he is very wide of the facts. He credits the entire State with only three millions and a half bushels of wheat, which is manifestly less than *one-half* of the exports of the State for 1865. The city of Winona alone exported last year within a million of bushels of the quantity assigned by Mr. Newton to the whole State. The Commissioner had better revise his statistics before he publishes his next volume on agriculture."

Indorsed on the margin of this editorial, by the person sending it to the department, is "Minnesota, 10,000,000 bushels wheat in 1865." Letters from that State, claiming 8,750,000 bushels of an export of wheat in 1865, and a crop of 10,000,000 bushels for that year, have been received by the department.

If this claim, thus put forth, is at all correct, then the estimate of the department is so wide of the fact that the system it has adopted to estimate the amount of the crops is fallacious, and its results unworthy the least regard. It is necessary, therefore, to examine this assumed crop of ten millions of bushels, as also the estimate of the department.

The following table is compiled from the census reports of 1840, 1850, and 1860. It exhibits the population of the northwestern States, their wheat production, and the yield per inhabitant for these years.

States.	Years.	Population.	Bushels of wheat.	Yield per inhabitant. Bushels and 10ths.	States.	Years.	Population.	Bushels of wheat.	Yield per inhabitant. Bushels and 10ths.
Ohio.....	1840	1,519,467	16,571,661	10.9	Michigan....	1840	212,267	2,157,108	10.1
Do.....	1850	1,980,329	14,487,351	7.3	Do.....	1850	347,654	4,925,889	12.4
Do.....	1860	2,339,511	14,532,570	6.2	Do.....	1860	749,113	8,313,185	11.1
Indiana.....	1840	685,866	4,049,375	5.9	Wisconsin....	1840	30,945	212,116	6.9
Do.....	1850	988,416	6,214,458	6.3	Do.....	1850	305,391	4,286,131	14.0
Do.....	1860	1,350,428	15,219,120	11.3	Do.....	1860	775,881	15,812,625	20.4
Illinois.....	1840	476,183	3,335,392	7.0	Iowa.....	1850	192,214	1,530,581	8.0
Do.....	1850	851,470	9,414,575	11.0	Do.....	1860	674,943	8,433,205	12.5
Do.....	1860	1,711,951	24,159,500	14.1	Minnesota....	1860	172,123	2,195,812	12.7

This table shows that with the exception of one year, that of Wisconsin for 1860, the highest yield was fourteen bushels per inhabitant. The extraordinary yield of Wisconsin for 1860 is 20 $\frac{1}{2}$ bushels. It is, however, a wheat-producing State almost entirely, having a limited city population, and such as are engaged

in other occupations than agriculture. Yet, even thus situated, the yield is most extraordinary. In the same year Minnesota produced but 12.7 bushels per inhabitant.

Again, let us consider the population of Minnesota for 1865. The highest claim that we have seen made for it is 275,000. This is an over-estimate. The State of Wisconsin was settled under most auspicious circumstances, and a corresponding increase on the part of Minnesota would give it in 1870 a population of 441,670. But the progress of Minnesota has been held back by its Indian war, by the rebellion, by the heavy emigration to the Pacific States and the Rocky mountain Territories. Foreign immigration has been drawn towards other localities, as is seen from the following statement :

"Where the immigrants go.—The New York Times furnishes the following statistics of the immigration at that port for the year 1865:

January.....	5,319
February.....	2,466
March.....	6,170
April.....	10,818
May.....	24,451
June.....	27,119
July.....	21,290
August.....	22,011
September.....	23,204
October.....	20,069
November.....	24,446
December.....	13,911
Total.....	201,275

"Their destinations—Arkansas, 5; Alabama, 10; Australia, 18; British Columbia, 21; Canada, 1,601; California, 1,070; Connecticut, 2,632; Colorado, 6; Central America, 2; Cuba, 61; Delaware, 319; District of Columbia, 1,137; Florida, 5; Georgia, 21; Illinois, 17,914; Iowa, 3,720; Indiana, 2,852; Kentucky, 1,293; Kansas, 412; Louisiana, 294; Massachusetts, 9,599; Maryland, 2,077; Maine, 422; Michigan, 4,024; Minnesota, 1,802; Missouri, 6,971; Mexico, 74; Mississippi, 34; New Hampshire, 216; Nova Scotia, 46; New York, 91,480; New Jersey, 6,056; Nebraska, 117; North Carolina, 27; New Brunswick, 49; Oregon, 18; South Carolina, 45; South America, 68; Texas, 21; Tennessee, 369; Vermont, 320; Utah, 1,109; Virginia, 535; West Indies, 16; Wisconsin, 6,493."

Here it is seen that out of 201,275, Minnesota obtains but 1,802. Minnesota, too, has, proportionally to Wisconsin at the same period of its numbers, a larger city and other population not engaged in agriculture. But overlooking this difference in the pursuits of its citizens, we see no reason to believe that its population in 1865 exceeded 235,000. Let us, however, accord to it 250,000. If this State, in 1865, produced 10,000,000 bushels of wheat, then the product per inhabitant is 40 bushels. A most ridiculous absurdity.

Again, the following table shows the amount of all the breadstuffs, including potatoes, raised in Wisconsin in 1860, and as estimated by this department in 1865, and also the product of the same in Minnesota for the same years:

	Wisconsin, 1860.	Wisconsin, 1865.	Minnesota, 1860.	Minnesota, 1865.
Wheat..... bushels..	15,812,625	20,307,920	2,195,812	3,425,467
Rye..... do.....	888,534	945,400	124,259	178,171
Barley..... do.....	678,992	843,649	125,130	178,310
Oats..... do.....	11,059,270	18,466,758	2,202,050	3,388,848
Corn..... do.....	7,565,290	13,449,405	2,987,570	5,577,795
Buckwheat..... do.....	67,622	85,466	27,677	35,414
Potatoes..... do.....	3,848,505	4,925,341	2,027,945	3,244,711
	39,920,833	59,022,939	9,690,443	16,028,716

Taking the proportions, then, as represented by this increase of Wisconsin and Minnesota, we have given to the one an increase of 48 per cent., and to the other an increase of 64 per cent. In the bi-monthly report for November and December, 1864, it will be seen that our correspondents returned an average of winter wheat sown for Wisconsin, 13—that is, three-tenths, or 30 per cent. above the amount sown in the fall of 1863; and for Minnesota 8, or two-tenths, or 20 per cent. below the amount sown in 1863. In the April and May report they return for Wisconsin the amount of spring wheat sown at 9, and its appearance at $10\frac{3}{4}$, and for Minnesota the amount sown at $9\frac{1}{2}$, and the appearance at $9\frac{1}{2}$, both being below the amount sown in the spring of 1864. Yet certain persons in Minnesota claim that our return of the wheat crop should be nearly 200 per cent greater than we have given it. They can with the same propriety claim a like increase in all their other crops, so that Minnesota, with a population of 250,000, should be given nearly as great crops in 1865 as Wisconsin, with a population of 775,881, raised in 1860, that year of such extraordinary production in that State. Here again is an absurdity too ridiculous to be noticed further.

It is just as easy for persons in a State to magnify its production as it is for speculators to decry it. It is the duty of this department to search after and make known the facts, and in doing this we have been aided by as competent and faithful a body of local correspondents as the world has ever seen. They follow the crops, from their sowing and planting, through all their changes, month by month, until they are harvested and threshed. They are more to be relied upon than the dictum of an editor, whose ignorance of the subject on which he writes is proportionally greater to the positiveness of his assertions.

After the preparation of this article a letter was received by the Commissioner of Agriculture, in which the writer claimed a population of 250,000, a wheat crop of 12,000,000 bushels, and a yield per inhabitant of 48 bushels. Surely it is not necessary that such estimates should be further answered until the facts upon which they are made are given.

THE MONTHLY REPORT AMONG THE FARMERS.

The following is a sample of numerous letters received from various sections of the Union, but which we have generally forborne publishing from motives of delicacy. We have long known that the publications of this department were adding largely to the profits of producers, and we will not affect indifference at finding our arduous and difficult labors appreciated by the mass of those whom they benefit. We would gladly increase the copies of our monthly and extend its circulation, but the fear of being deemed extravagant in increasing the expenses of our heavily burdened government has prevented. True, we know that every dollar expended in spreading the knowledge of important facts among our farmers will very shortly return ten and twenty fold to the resources of the nation. But how convince legislators and people generally of this truth? We can only trust that practical and far-seeing men among our readers everywhere will take pains, each in his own circle, to point out the constantly recurring instances where great benefits have (or might have) resulted to individuals by heeding the information imparted in our annual and monthly reports. Once commenced, be sure that the circle of spreading truth and influence will grow stronger and enlarge itself. But to the letters of our correspondent:

“RAVENNA, PORTAGE CO., OHIO, January 2, 1866.

“DEAR SIR: Having received the monthly and bi-monthly reports of your department during their entire publication, and having circulated as widely as possible much of the very valuable information therein contained, and had numerous and extensive opportunities

to gather information of the estimates really placed on them by our farmers and others, I am fully prepared to say that no report, journal or other published matter, has met with so much favor, or been of so much value to our people, as these. My office has become a kind of headquarters for both farmers and produce dealers, each striving to get a glimpse of probable future demand and supply, and I do positively *know* that the farmers who have paid the strictest attention to your reports during the past year have met with the best success in their calculations. The government should, at the earliest possible moment, publish and circulate them more extensively; for they are, in deed and in truth, to the farmer what the chart and compass are to the mariner—a guide to safety and prosperity.

"I remain, your obedient servant,

"S. D. NORTON."

The following extracts are taken from letters received a day or two since. Many similar extracts could be given, but these are sufficient to show the practical utility of the monthly reports:

"WHATELY, MASSACHUSETTS, *January 27, 1866.*

"DEAR SIR: In accordance with a vote of the Whately Farmers' Club, passed at their annual meeting on the evening of January 2, I hereby extend to you the thanks of the club for the many favors received from you, more particularly for the regular receipt of five copies of your monthly report. The statistics which they contain are of immense value to us, as a community; especially so to all of us who are tobacco-growers. Many men sold their crops for four and fifteen cents per pound—that is, four for fillers and fifteen for wrappers, while those who heeded the facts given in your statistics (like myself) received twenty-five cents per pound for the entire crop.

"JAMES M. CROFTS,
"Corresponding Secretary."

"MT. CARROLL, CARROLL COUNTY, Ill.,

"February 2, 1866.

"DEAR SIR: Please send me your monthly reports, if convenient. I would have gained over \$300 last summer in my sale of hogs, if I had seen your statistics of the number of hogs in the country, but I did not until after the hogs were sold.

"JOHN MACKAY."

THE CANADIAN RECIPROcity TREATY—ONCE MORE.

A recent number of the New York Times contains an article exposing a miserable deception practiced on the people of this country through the tables showing the amount of the imports and exports of the trade under this treaty. To understand aright tables of statistics much other information is essential. Everybody knows the different notes in music, and everybody can look upon a piece of music as easily as he can a column of figures; but few can read aright either. So, taking advantage of our miserable system of valuing imports and exports differently, our Canadian neighbors prepared tables showing the imports and exports of the trade between the two countries under the reciprocity treaty. The Times very truly remarks that "the only semblance of an argument we have ever seen in favor of the existing system of reciprocity consists in a recital of the aggregate trade," as exhibited by these tables. But the Buffalo Board of Trade has exposed the deception concealed in these tables, by exhibiting the widely different basis upon which the *valuation* of the exports of Canada and of our own have been made. It says:

Thus, coal imported for the provinces is entered at an average per ton of \$2 68; exported to the provinces it is estimated at \$5 30. Dried fish, imported, is rated at \$2 90 per 100 pounds; exported at \$4 60. Meats, imported, are rated at \$4 67 per 100 pounds; exported, \$6 72. Flour, imported, \$2 65 per barrel; exported, \$3 82. "Our coal," remarks the Buffalo writer, "is estimated at twice the price of theirs; our fish at sixty per cent. higher

than theirs. The grades of Canadian flour sent into our market are generally their best grades, usually competing with our best grades for white wheat flour, while what we send to Canada is of our poorer grades. Yet our poor flour stands upon record at forty-five per cent. higher value than their best grades." Here is another illustration. "We import from Nova Scotia 100 pounds dry fish free of duty; they are entered at our custom-house in Portland at \$2 90; we send the same bundle of fish on to Montreal, which they enter there free of duty at \$1 60; we have only transferred the same bundle of fish and got a 'balance of trade' in our favor of 60 per cent. of the original amount that the same bundle of fish was entered for at our custom-house in Portland, when perhaps that was all that we had to do with it."

"By this sort of fiscal legerdemain," says the Times, "the weak points in much of our reciprocal trade, so called, are dexterously concealed from view. Our exports assume a false magnitude as compared with our imports. The adoption of the same values in both cases would overthrow any pretence that the 'balance of trade' is in our favor, and would demonstrate the insignificance of whatever advantages accrue to us from the treaty contrasted with those which we have for ten years conferred upon the provinces."

In the last monthly report we referred to the fact that the Canadians partook of all the benefit resulting from our domestic high prices, created by the civil conflict, without being subjected to the loss of life and burden of debt which the rebellion imposed on American citizens, and the renewal of the treaty was inadmissible until *equality* of burdens, as well as benefits, was imposed by the treaty itself.

In the table of British imports of wheat and flour, published in the leading article of this number, we find this objection fully sustained. The exports of wheat and flour by the United States and the Canadas to Great Britain, for eleven months of 1864 and 1865, are as follows :

From—	Wheat, bushels.		Flour, pounds.	
	1864.	1865.	1864.	1865.
United States	14, 627, 234	1, 897, 524	194, 590, 704	26, 490, 912
British North America.....	2, 173, 970	549, 389	42, 949, 120	18, 666, 256

It will be seen that Canadian exports shared the same fate as our own—a most serious decline. And this took place while the British imports of bread-stuffs largely increased from Russia and France. Why this result? Because, under the reciprocity treaty the advance of prices in the United States equally advanced those of Canadian wheat and flour; and, indeed, of all other of its agricultural productions, until this advance was too great to admit of an export to Great Britain. For this temporary and incidental benefit of the war the American farmer has had to lay down life, and for all time to come must feel the burden of a heavy taxation; but the Canadian enjoys the benefit, freed from these penalties.

Is it any wonder that the Canadas sent their most eloquent advocate to the Detroit convention to persuade us of their most loving affection, (since the rebellion was crushed,) and who, with honored commendations, would have persuaded that convention to recommend a renewal of the treaty; or, in other

words, that the convention should hold the bowl in which to catch our life-blood, whilst this eloquent representative, with the utmost good will, drew a razor across our throats?

St. Albans (Canada) export of butter and cheese into the United States.

The following table, published by the St. Albans Messenger, shows the amount of butter and cheese shipped from St. Albans station (Vermont and Canada railroad) from 1851 to 1865. It is a specimen of the greatly increased supplies sent from Canada into the United States under the reciprocity treaty, which went into operation in 1856, and exhibits the wrong inflicted by it upon American farmers.

	Butter.	Cheese.
Year 1851.....	1,199,964 pounds.	550,258 pounds.
1852.....	1,149,235 "	601,969 "
1853.....	1,939,354 "	1,122,703 "
1854.....	1,712,404 "	1,035,376 "
1855.....	1,715,127 "	966,289 "
1856.....	2,293,568 "	1,228,128 "
1857.....	2,364,745 "	825,162 "
1858.....	2,713,309 "	1,294,393 "
1859.....	2,424,969 "	1,247,288 "
1860.....	2,506,700 "	1,984,000 "
1861.....	2,752,209 "	1,481,716 "
1862.....	2,420,370 "	1,281,602 "
1863.....	2,863,576 "	911,842 "
1864.....	2,472,854 "	923,210 "
1865.....	3,035,257 "	1,174,261 "
Total.....	33,603,644 "	16,628,197 "

ENGLISH MARKETS—AMERICAN IMPORTS.

The Mark Lane Express of January 15 has the following notice of the condition of the London market:

"As might have been expected in January, generally the sharpest month of the year, the past week has brought us a taste of winter, with a heavy fall of snow; but this being occasionally commingled with rain, there is but little prospect of its covering the ground sufficiently to do good. There has, however, been so much unseasonable damp lately that farmers had much better have kept their wheat in stack than threshed it, for the complaint has increased of the injured condition of samples, and, as a natural consequence, of lower prices. Still the reduced deliveries show that some are wise enough not to throw their chances away; and if dry wheat is to be the standard of value, we doubt whether there has really been one shilling (24 cents) per eight bushels decline since Christmas. Indeed, many of last week's markets show a fair demand on former terms. In the mean time the cattle murrain advances with such rapid strides that 1,000 head per day are being sacrificed, which, at the rate of 9 pence (18 cents) per pound, takes away daily the animal food of half a million of people; not, perhaps, at present, but certainly in prospect. Fear and good prices will necessarily keep markets well supplied as long as possible; but the result is plain enough to thinking people, and the utmost skill, with a favoring Providence,

most desirable. As to present stocks of wheat in London, Horne & Co., in their annual circular, make them somewhat less than last year, and we put them down at 350,000 quarters, (2,800,000 bushels.) For London alone we have less than six weeks' consumption; while, as London happens to be the largest emporium in the world just now, what becomes of this stock if a large country or foreign demand should set in? The former is certain, and the latter just possible, from the diminished growth of wheat all over the world. Neither, therefore, the dampness of the weather nor the present price either of wheat or meat has anything to do with future prices. Foreign markets still give dull reports, the *fetes* not being concluded; but with a frost there would be a change everywhere. By a comparison of the imports into London for the last quarter of 1865, as compared with 1864, there appears a decrease in wheat of 39,588 qrs.; of oats, 39,785 qrs.; of rye, 8,769 qrs.; and of barrel flour, 33,094 barrels; but an increase in barley of 34,999 qrs.; beans, 402 qrs.; peas, 6,144 qrs.; and 13,280 sacks of flour."

So far, then, the indications are not favorable to increased exports soon of breadstuffs from the United States to Great Britain. The fear of losing cattle by the plague causes a great slaughter of them, which, in the end, as intimated by the Mark Lane Express, must make meats very high, and force an increased consumption of breadstuffs. The decreased imports of cereals into London indicate full home supplies at present. In the mean time, whilst the hope of exporting our cereals is so discouraging, our imports have become enormous. In January, 1865, at New York, the imports of dry goods were \$2,350,635; in January, 1866, \$15,769,091. During the last six months of 1865, and January 1866, compared with the same months of 1864 and January 1865, the imports of dry goods at the same port were, for the first period \$83,110,063, and for the last period \$27,580,408. From the comments of the English papers this importation seems to be done chiefly *on credit*. If so, the credit system will soon again be in vogue here, with all its terrible evils. Our bonds are fast leaving for Europe, and our national debt, instead of being a domestic debt, with the annual interest retained among us, will operate as a drain of our specie annually. Surely such an importation is totally at war with a return to specie payments, or with any national good whatever, save a present increase of custom receipts at the expense of future receipts, when needed more than they now are.

The present condition of our foreign trade but makes true the opinions expressed by the Secretary of the Treasury in his able report:

"If the business of the country rested upon a stable basis, or if credits could be kept from being still further increased, there would be less occasion for solicitude on this subject. But such is not the fact. Business is not in a healthy condition; it is speculative, feverish, and uncertain."

Again, speaking of the national debt, he says: "The debt is large, but if kept at home, as it is desirable it should be, with a judicious system of taxation, it need not be oppressive." But instead of keeping it *at home*, we are sending it *abroad* to pay for these excessive imports. That is, to an already great national debt we are adding these millions of a commercial debt.

THE CROPS OF 1865.

The following tables exhibit the yield per acre of the leading crops of 1864 and 1865, and their prices on the first day of January, 1865 and 1866. The comparison shows a favorable yield in 1865, but a great falling off in prices during the fall and winter of 1865. This decline is severely felt by the farmers,

because the scarcity of labor made the production of the crop of 1865 very costly. Add to this the continued high rates of everything they buy, and we see much cause for the complaints that reach the department.

These tables exhibit the general average for each State, both of acreage and price, and they are formed from the returns made by our correspondents in the counties. The totals of the counties are divided by the number of counties returning the acreage and price of each crop, and the result gives the averages as here shown.

Table showing the average yield per acre and the average prices of the principal crops of the loyal Atlantic States for 1864 and 1865.

States.	WHEAT.				RYE.			
	1864.		1865.		1864.		1865.	
	Average yield per acre in 1864, stated in bushels.	Average price per bushel on 1st of January, 1865.	Average yield per acre in 1865, stated in bushels.	Average price per bushel on 1st of January, 1866.	Average yield per acre in 1864, stated in bushels.	Average price per bushel on 1st of January, 1865.	Average yield per acre in 1865, stated in bushels.	Average price per bushel on 1st of January, 1866.
Maine	10 $\frac{5}{11}$	\$2 60	13 $\frac{1}{2}$	\$2 21 $\frac{1}{2}$	12	\$2 04 $\frac{1}{2}$	14 $\frac{1}{2}$	\$1 33 $\frac{1}{2}$
New Hampshire ..	12 $\frac{1}{2}$	2 68	15 $\frac{1}{2}$	2 60	14 $\frac{1}{2}$	2 04	16	1 28 $\frac{1}{2}$
Vermont	14	2 57 $\frac{1}{2}$	18 $\frac{1}{2}$	2 18	15 $\frac{1}{2}$	1 88	16	1 28 $\frac{1}{2}$
Massachusetts ...	16	2 41	17 $\frac{1}{2}$	2 21 $\frac{1}{4}$	15	2 00	14 $\frac{3}{4}$	1 29 $\frac{1}{2}$
Rhode Island.....	15	2 50	.....	.....	17	2 00	18	1 22 $\frac{1}{4}$
Connecticut	16 $\frac{1}{2}$	2 37 $\frac{1}{2}$	17 $\frac{1}{2}$	2 37 $\frac{1}{2}$	15	1 91	14	1 31 $\frac{1}{4}$
New York	13	2 34 $\frac{2}{3}$	15 $\frac{1}{3}$	2 08 $\frac{1}{2}$	14 $\frac{1}{2}$	1 70 $\frac{1}{2}$	15 $\frac{1}{2}$	1 02
New Jersey	15	2 33	12 $\frac{4}{10}$	2 32 $\frac{3}{4}$	13 $\frac{1}{2}$	1 69 $\frac{1}{2}$	13 $\frac{1}{2}$	1 04
Pennsylvania ...	12	2 40	12 $\frac{1}{2}$	2 05 $\frac{2}{3}$	14 $\frac{1}{4}$	1 70	13 $\frac{1}{2}$	1 37 $\frac{2}{3}$
Maryland	11 $\frac{1}{2}$	2 60	9 $\frac{5}{11}$	2 06 $\frac{1}{2}$	14	1 64	10 $\frac{2}{3}$	85 $\frac{7}{9}$
Delaware	12	2 53	7 $\frac{1}{2}$	2 00	15 $\frac{2}{3}$	1 56 $\frac{2}{3}$	7	95
Kentucky	10 $\frac{1}{4}$	1 96 $\frac{1}{2}$	7 $\frac{1}{4}$	1 70 $\frac{1}{2}$	13 $\frac{2}{3}$	1 35 $\frac{1}{2}$	9	93 $\frac{1}{3}$
Ohio	10 $\frac{1}{4}$	1 93	9 $\frac{1}{2}$	1 59 $\frac{1}{2}$	12 $\frac{1}{4}$	1 32 $\frac{1}{2}$	12 $\frac{1}{2}$	72 $\frac{4}{5}$
Michigan	12	1 96	15 $\frac{2}{3}$	1 65	14 $\frac{1}{4}$	1 36 $\frac{1}{3}$	14 $\frac{1}{2}$	83
Indiana	14	1 75	8 $\frac{1}{2}$	1 35 $\frac{1}{2}$	12	1 31	12 $\frac{1}{2}$	80 $\frac{1}{3}$
Illinois	14 $\frac{1}{3}$	1 55	11	1 09	15	1 01 $\frac{1}{2}$	16 $\frac{1}{3}$	49 $\frac{1}{3}$
Missouri	14 $\frac{1}{5}$	1 75	12 $\frac{3}{4}$	1 62 $\frac{3}{4}$	15 $\frac{2}{3}$	1 11 $\frac{1}{3}$	16 $\frac{2}{3}$	89 $\frac{3}{4}$
Wisconsin	9 $\frac{1}{2}$	1 48 $\frac{1}{3}$	16 $\frac{3}{10}$	1 09	12 $\frac{1}{4}$	1 09 $\frac{1}{5}$	17 $\frac{1}{4}$	63
Iowa	12 $\frac{1}{4}$	1 34 $\frac{2}{3}$	14 $\frac{3}{5}$	1 00 $\frac{1}{4}$	15	92	18 $\frac{1}{3}$	59
Minnesota	13 $\frac{1}{3}$	1 13 $\frac{2}{3}$	20 $\frac{3}{5}$	80	14 $\frac{1}{3}$	92	22 $\frac{1}{3}$	65
Kansas	15	2 01	15 $\frac{1}{2}$	1 77	17	1 25	23	1 09
West Virginia ...	9 $\frac{1}{4}$	2 01	8 $\frac{1}{2}$	1 89 $\frac{1}{2}$	12 $\frac{1}{2}$	1 47	12 $\frac{1}{2}$	88 $\frac{1}{4}$
Nebraska Territory	14	1 50	18	1 49	16	1 29	18	1 00

Table showing the average yield per acre and the average prices—Continued.

States.	BARLEY.				OATS.			
	1864.		1865.		1864.		1865.	
	Average yield per acre in 1864, stated in bushels.	Average price per bushel on 1st of January, 1865.	Average yield per acre in 1865, stated in bushels.	Average price per bushel on 1st of January, 1866.	Average yield per acre in 1864, stated in bushels.	Average price per bushel on 1st of January, 1865.	Average yield per acre in 1865, stated in bushels.	Average price per bushel on 1st of January, 1866.
Maine	18	\$1 45	20	\$0 96	22	\$1 01	26	\$0 61
New Hampshire ..	18	1 69	21 $\frac{1}{4}$	1 11 $\frac{1}{4}$	24	92	29 $\frac{1}{2}$	68
Vermont	22	1 61	28 $\frac{3}{4}$	1 08 $\frac{3}{4}$	33	87	39	53 $\frac{1}{2}$
Massachusetts ...	20	1 78	19 $\frac{1}{2}$	1 21	26 $\frac{3}{10}$	1 04	26	72
Rhode Island....	25	1 64	26 $\frac{1}{2}$	1 37 $\frac{1}{2}$	33	98 $\frac{3}{4}$	32 $\frac{1}{2}$	67 $\frac{1}{2}$
Connecticut	23 $\frac{1}{2}$	1 81	23 $\frac{1}{2}$	1 37	30	1 00	35 $\frac{3}{4}$	66 $\frac{3}{4}$
New York	18 $\frac{3}{4}$	1 74 $\frac{1}{3}$	22 $\frac{1}{10}$	1 02	23	94	34 $\frac{2}{7}$	51 $\frac{1}{2}$
New Jersey	20	1 78 $\frac{1}{2}$	22	1 12	32 $\frac{1}{2}$	91 $\frac{1}{7}$	32	51 $\frac{1}{2}$
Pennsylvania ...	18	1 71	22 $\frac{1}{3}$	96 $\frac{2}{3}$	29 $\frac{1}{4}$	87	34	48
Maryland	26 $\frac{2}{3}$	1 78 $\frac{2}{3}$	27 $\frac{1}{2}$	97 $\frac{1}{2}$	22	87	24 $\frac{1}{5}$	43 $\frac{2}{5}$
Delaware	27	1 87 $\frac{1}{2}$	.....	.....	24	80	12	47
Kentucky	23 $\frac{1}{3}$	1 59 $\frac{1}{6}$	21 $\frac{1}{9}$	1 09 $\frac{1}{2}$	24 $\frac{1}{4}$	79 $\frac{1}{4}$	24 $\frac{1}{3}$	46
Ohio	23 $\frac{2}{3}$	1 56	22 $\frac{7}{10}$	89 $\frac{1}{2}$	29	72 $\frac{1}{5}$	31 $\frac{2}{3}$	34 $\frac{1}{6}$
Michigan	19 $\frac{1}{5}$	1 56	22 $\frac{2}{3}$	96 $\frac{1}{2}$	26	75 $\frac{2}{4}$	37 $\frac{3}{4}$	40
Indiana	24	1 56	22 $\frac{1}{5}$	98 $\frac{1}{2}$	26	75 $\frac{3}{5}$	29 $\frac{6}{10}$	35 $\frac{9}{10}$
Illinois	22 $\frac{2}{3}$	1 37	21	56 $\frac{3}{4}$	31 $\frac{1}{6}$	61	35	24
Missouri	23	1 47 $\frac{2}{3}$	23 $\frac{1}{4}$	1 17 $\frac{3}{11}$	25 $\frac{1}{4}$	71 $\frac{1}{2}$	26 $\frac{3}{8}$	45 $\frac{5}{6}$
Wisconsin	13 $\frac{1}{4}$	1 49	26 $\frac{1}{2}$	70 $\frac{7}{10}$	27 $\frac{1}{2}$	60	40 $\frac{2}{3}$	28
Iowa	21	1 20 $\frac{1}{4}$	25 $\frac{1}{7}$	56 $\frac{1}{2}$	32	53	38 $\frac{1}{7}$	26 $\frac{1}{5}$
Minnesota	20	1 09 $\frac{1}{6}$	29	55	28 $\frac{3}{4}$	73 $\frac{1}{2}$	41 $\frac{1}{2}$	39
Kansas	23	1 27	28 $\frac{1}{3}$	1 10 $\frac{4}{5}$	29	96 $\frac{1}{2}$	34 $\frac{1}{8}$	66 $\frac{1}{4}$
West Virginia ...	20 $\frac{1}{2}$	1 67	20	1 01 $\frac{2}{3}$	24	79 $\frac{1}{2}$	28 $\frac{1}{10}$	41 $\frac{1}{5}$
Nebraska Territ'y	20	1 22 $\frac{1}{2}$	26 $\frac{5}{9}$	1 16 $\frac{1}{8}$	28	68 $\frac{3}{8}$	38 $\frac{3}{8}$	53 $\frac{4}{11}$

Table showing the average yield per acre and the average prices—Continued.

States.	CORN.				BUCKWHEAT.			
	1864.		1865.		1864.		1865.	
	Average yield per acre in 1864, stated in bushels.	Average price per bushel on 1st of January, 1865.	Average yield per acre in 1865, stated in bushels.	Average price per bushel on 1st of January, 1866.	Average yield per acre in 1864, stated in bushels.	Average price per bushel on 1st of January, 1865.	Average yield per acre in 1865, stated in bushels.	Average price per bushel on 1st of January, 1866.
Maine	27	\$2 10	34	\$1 21	19	\$1 28	20 $\frac{1}{2}$	\$0 90
New Hampshire ..	29 $\frac{1}{2}$	2 11	33	1 21 $\frac{1}{2}$	19 $\frac{1}{2}$	1 32	16 $\frac{1}{4}$	1 01 $\frac{3}{4}$
Vermont	38 $\frac{4}{5}$	1 96	43 $\frac{3}{4}$	1 15 $\frac{1}{4}$	19 $\frac{1}{5}$	1 04	26	75
Massachusetts ..	31 $\frac{1}{2}$	2 04	33 $\frac{1}{5}$	1 10 $\frac{1}{2}$	16 $\frac{1}{4}$	1 25	18 $\frac{3}{5}$	1 01 $\frac{1}{4}$
Rhode Island ..	30 $\frac{1}{4}$	2 09	31 $\frac{1}{2}$	1 22 $\frac{1}{2}$	.....	.....	.....	.....
Connecticut	31	1 81	31 $\frac{1}{4}$	1 22 $\frac{1}{2}$	16 $\frac{3}{5}$	1 35	16 $\frac{1}{4}$	1 07 $\frac{1}{2}$
New York	29 $\frac{1}{3}$	1 68	24	95	18 $\frac{1}{9}$	1 13 $\frac{2}{3}$	18	95
New Jersey	31 $\frac{2}{3}$	1 70 $\frac{1}{7}$	42 $\frac{1}{3}$	85 $\frac{1}{2}$	17	1 44	15 $\frac{3}{4}$	1 32 $\frac{1}{4}$
Pennsylvania ..	29 $\frac{1}{2}$	1 54 $\frac{1}{4}$	40	80	18 $\frac{3}{4}$	1 16 $\frac{3}{4}$	16 $\frac{1}{2}$	1 03
Maryland	21 $\frac{1}{2}$	1 62	31 $\frac{1}{10}$	76 $\frac{1}{10}$	19 $\frac{3}{5}$	1 58	22 $\frac{1}{5}$	97
Delaware	20 $\frac{1}{3}$	1 55	16 $\frac{1}{2}$	75	20	1 00	10 $\frac{1}{2}$	1 00
Kentucky	28 $\frac{1}{2}$	96 $\frac{2}{3}$	34	43 $\frac{1}{3}$	20 $\frac{1}{3}$	1 37 $\frac{1}{2}$	19 $\frac{1}{4}$	1 50 $\frac{5}{8}$
Ohio	31 $\frac{1}{3}$	96	41 $\frac{1}{2}$	44 $\frac{3}{7}$	17	1 10	16	91 $\frac{1}{8}$
Michigan	24 $\frac{1}{3}$	1 26	38 $\frac{1}{2}$	60 $\frac{1}{9}$	12	1 18 $\frac{1}{2}$	20	88
Indiana	29	95 $\frac{1}{2}$	40 $\frac{6}{10}$	38 $\frac{7}{10}$	18 $\frac{1}{2}$	1 24 $\frac{1}{3}$	18	87 $\frac{2}{3}$
Illinois	33	75	35 $\frac{1}{4}$	29 $\frac{1}{4}$	17	1 10	17 $\frac{1}{2}$	89 $\frac{4}{5}$
Missouri	26 $\frac{4}{5}$	97	39	52	15 $\frac{5}{7}$	1 07	20 $\frac{1}{2}$	89
Wisconsin	31	94	41 $\frac{1}{2}$	46	16 $\frac{1}{2}$	88 $\frac{3}{4}$	20	69
Iowa	36 $\frac{2}{3}$	67 $\frac{5}{8}$	42 $\frac{3}{5}$	30	17 $\frac{1}{2}$	1 14	18 $\frac{2}{3}$	82
Minnesota	33	94	38	51 $\frac{1}{2}$	17 $\frac{2}{3}$	1 23 $\frac{1}{3}$	23	80
Kansas	25	1 37	41 $\frac{1}{5}$	53	15	1 25	25 $\frac{1}{4}$	1 52 $\frac{1}{2}$
West Virginia ...	31	1 06	39 $\frac{1}{2}$	53 $\frac{2}{3}$	18 $\frac{1}{3}$	1 32	17 $\frac{1}{3}$	90
Nebraska Territ'ry	28 $\frac{1}{2}$	99	46 $\frac{1}{2}$	59	.....	.....	26 $\frac{2}{3}$	1 37 $\frac{1}{2}$

Table showing the average yield per acre, and the average prices—(Continued)

States.	POTATOES.				LEAF TOBACCO.			
	1864.		1865.		1864.		1865.	
	Average yield per acre in 1864, stated in bushels.	Average price per bushel on 1st of January, 1865.	Average yield per acre in 1865, stated in bushels.	Average price per bushel on 1st of January, 1866.	Average yield per acre in 1864, stated in pounds.	Average price per pound on 1st of January, 1865.	Average yield per acre in 1865, stated in pounds.	Average price per pound on 1st of January, 1866.
Maine	143	\$0 67	138 $\frac{1}{2}$	\$0 57	.....	.....	.....	.....
New Hampshire..	164	60	120 $\frac{1}{2}$	68	985	\$0 25	.....	.....
Vermont	162 $\frac{1}{2}$	54	164	42	.....	.....	.....	.....
Massachusetts	132 $\frac{1}{4}$	93	104 $\frac{3}{4}$	73 $\frac{1}{2}$	1, 650	25	1, 200	22 $\frac{1}{2}$
Rhode Island	127 $\frac{1}{2}$	97 $\frac{1}{2}$	107 $\frac{1}{2}$	82 $\frac{1}{2}$	1, 350	30	.....	.....
Connecticut	131	83	121 $\frac{1}{4}$	76 $\frac{1}{4}$	1, 450	25	1, 350	30
New York	115 $\frac{1}{2}$	66	107	62	856	24	1, 091	14
New Jersey	86 $\frac{3}{8}$	1 08	90 $\frac{1}{2}$	87	.....	25	.....	.....
Pennsylvania	110 $\frac{1}{8}$	89	75 $\frac{1}{4}$	98 $\frac{1}{6}$	1, 068 $\frac{1}{2}$	18 $\frac{1}{2}$	977	09 $\frac{3}{4}$
Maryland	55	1 20	65 $\frac{1}{2}$	84	750	13 $\frac{3}{8}$	690 $\frac{3}{8}$	11 $\frac{1}{2}$
Delaware	125	1 32	112 $\frac{1}{2}$	77 $\frac{1}{2}$	.....	.....	.....	.....
Kentucky	81 $\frac{1}{6}$	1 09 $\frac{2}{3}$	59 $\frac{1}{2}$	90 $\frac{2}{3}$	770	12	736 $\frac{1}{2}$	12
Ohio	96	91 $\frac{1}{4}$	83	91 $\frac{5}{6}$	870 $\frac{1}{2}$	13 $\frac{1}{2}$	744	09 $\frac{1}{6}$
Michigan	79	81 $\frac{1}{2}$	145 $\frac{3}{7}$	27 $\frac{1}{2}$	1, 000	20	1, 300	15 $\frac{1}{2}$
Indiana	80	99 $\frac{1}{2}$	84	78	856 $\frac{1}{3}$	14	639 $\frac{1}{2}$	10 $\frac{1}{6}$
Illinois	81 $\frac{1}{4}$	1 15	117	47 $\frac{1}{4}$	907	16 $\frac{1}{7}$	777	10 $\frac{7}{6}$
Missouri	39	1 75 $\frac{1}{3}$	122 $\frac{2}{3}$	62 $\frac{1}{3}$	562 $\frac{1}{2}$	13 $\frac{4}{7}$	940	13 $\frac{3}{8}$
Wisconsin	118	55	141 $\frac{2}{3}$	36	980	15	1, 300	12
Iowa	76	1 11 $\frac{1}{3}$	120 $\frac{1}{3}$	43	957	25	883 $\frac{1}{3}$	19 $\frac{1}{3}$
Minnesota	112	67 $\frac{1}{7}$	197	35	800	20	.....	.....
Kansas	43	2 68	119	97	675	11 $\frac{1}{4}$	533	25
West Virginia ...	74	1 29	68 $\frac{2}{3}$	1 04 $\frac{2}{7}$	655 $\frac{1}{2}$	20	843	17 $\frac{6}{7}$
Nebraska Terr'ry	51 $\frac{3}{8}$	2 08	138 $\frac{2}{3}$	64 $\frac{1}{2}$	.....	.....	500	20 $\frac{1}{2}$

Table showing the average yield per acre, and the average prices—Continued.

States.	HAY.				SORGHUM MOLASSES.			
	1864.		1865.		1864.		1865.	
	Average yield per acre in 1864, stated in tons.	Average price per ton on 1st of January, 1865.	Average yield per acre in 1865, stated in tons.	Average price per ton on 1st of January 1, 1866.	Average yield per acre in 1864, stated in gallons.	Average price per gallon on 1st of January, 1865.	Average yield per acre in 1865, stated in gallons.	Average price per gallon on 1st of January, 1866.
Maine	$\frac{7}{8}$	\$21 00	1	\$11 81	.....	.....	.....	.....
New Hampshire..	1	21 00	1	14 70	.....	.....	.....	.....
Vermont	1	17 95	$1\frac{1}{2}$	11 50	.....	.....	.....	.....
Massachusetts....	1	29 00	$1\frac{1}{2}$	21 00	.....	.....	.....	.....
Rhode Island....	1	31 50	$1\frac{1}{2}$	22 50	.....	.....	.....	.....
Connecticut	$1\frac{1}{2}$	27 00	$1\frac{1}{2}$	23 50	$126\frac{2}{3}$	\$1 20	$118\frac{1}{3}$	\$1 30
New York	$1\frac{2}{9}$	23 05	$1\frac{2}{3}$	12 33	$112\frac{1}{2}$	1 06	75	1 00
New Jersey	$1\frac{1}{2}$	26 71 $\frac{1}{2}$	$1\frac{1}{2}$	13 89	105	1 18	90	1 06 $\frac{1}{2}$
Pennsylvania....	$1\frac{3}{10}$	24 55	$1\frac{3}{5}$	11 23	$114\frac{7}{8}$	1 22	$121\frac{1}{4}$	1 03 $\frac{1}{2}$
Maryland	$1\frac{1}{2}$	27 00	$1\frac{1}{2}$	$16\ 42\frac{1}{2}$	91	1 14	$113\frac{1}{3}$	$99\frac{1}{6}$
Delaware	$1\frac{1}{2}$	30 00	$1\frac{1}{2}$	17 00	$134\frac{1}{3}$	1 00	$82\frac{1}{2}$	$82\frac{1}{2}$
Kentucky	$1\frac{1}{3}$	20 16	$1\frac{4}{10}$	12 10	102	1 20 $\frac{1}{2}$	101	$76\frac{1}{3}$
Ohio	$1\frac{1}{2}$	19 38	$1\frac{2}{3}$	8 00	118	1 03 $\frac{1}{3}$	130	$87\frac{1}{2}$
Michigan	$1\frac{1}{9}$	19 33	$1\frac{4}{5}$	$12\ 16\frac{2}{3}$	$121\frac{1}{2}$	1 19 $\frac{3}{4}$	128	1 03
Indiana	$1\frac{1}{2}$	17 81	$1\frac{2}{3}$	9 40	$96\frac{1}{3}$	1 05 $\frac{1}{2}$	123	$79\frac{1}{2}$
Illinois	$1\frac{1}{2}$	15 33	$1\frac{1}{2}$	9 30	$100\frac{1}{2}$	1 01 $\frac{1}{4}$	$102\frac{1}{3}$	$71\frac{1}{3}$
Missouri	$1\frac{3}{4}$	$18\ 12\frac{1}{2}$	$1\frac{2}{3}$	12 33	106	1 03 $\frac{1}{2}$	$115\frac{3}{7}$	$67\frac{1}{5}$
Wisconsin	$1\frac{1}{2}$	13 00	$1\frac{1}{2}$	10 14	$111\frac{1}{4}$	1 19	105	96
Iowa	$1\frac{2}{5}$	9 51	$1\frac{3}{4}$	$7\ 35\frac{1}{2}$	102	1 12 $\frac{1}{2}$	$121\frac{1}{4}$	$72\frac{3}{8}$
Minnesota	$1\frac{1}{2}$	9 36	$1\frac{7}{10}$	8 59	$103\frac{1}{2}$	1 29	91	1 03
Kansas	$1\frac{2}{3}$	13 00	2	8 00	$75\frac{1}{2}$	1 14 $\frac{1}{2}$	129	92
West Virginia ...	$1\frac{1}{2}$	20 61	$1\frac{4}{7}$	8 00	114	1 17	$120\frac{5}{8}$	$86\frac{1}{6}$
Nebraska Territ'ry	$1\frac{1}{3}$	7 33	2	5 64	120	1 28	$125\frac{3}{10}$	$94\frac{1}{2}$

Table showing the amount and condition of the fall-sown crops.

States.	WINTER WHEAT.		WINTER RYE.		WINTER BARLEY.	
	Average amount sown last fall compared with 1864.	Average condition of same on 1st of January, 1866.	Average amount sown last fall compared with 1864.	Average condition of same on 1st of January, 1866.	Average amount sown last fall compared with 1864.	Average condition of same on 1st of January, 1866.
Maine.....	10	9 $\frac{1}{2}$	10 $\frac{5}{8}$	9 $\frac{1}{4}$	-----	-----
New Hampshire.....	10 $\frac{1}{6}$	10	10	10	10	10
Vermont.....	10 $\frac{1}{8}$	8 $\frac{3}{8}$	10 $\frac{3}{8}$	9 $\frac{3}{8}$	-----	-----
Massachusetts.....	9	9 $\frac{1}{8}$	9 $\frac{3}{8}$	9 $\frac{1}{2}$	10	7 $\frac{1}{2}$
Rhode Island.....	-----	-----	10	10	10	10
Connecticut.....	10	9	11	9 $\frac{1}{2}$	8	9
New York.....	10 $\frac{1}{4}$	10 $\frac{1}{4}$	10 $\frac{1}{4}$	9 $\frac{7}{8}$	9 $\frac{1}{8}$	9 $\frac{3}{8}$
New Jersey.....	10	10 $\frac{1}{2}$	10	10 $\frac{1}{2}$	-----	-----
Pennsylvania.....	10 $\frac{1}{10}$	10 $\frac{1}{10}$	10	10 $\frac{1}{8}$	9 $\frac{7}{10}$	10
Maryland.....	9 $\frac{7}{10}$	10 $\frac{1}{8}$	10	9 $\frac{7}{8}$	-----	-----
Delaware.....	11	9 $\frac{1}{2}$	10	10	-----	-----
Kentucky.....	10 $\frac{3}{8}$	10 $\frac{3}{8}$	9 $\frac{3}{4}$	10 $\frac{1}{8}$	10 $\frac{7}{10}$	10 $\frac{1}{8}$
Ohio.....	10 $\frac{1}{2}$	10	9 $\frac{3}{8}$	10 $\frac{1}{8}$	9 $\frac{3}{8}$	10
Michigan.....	10 $\frac{1}{8}$	10	10	10	10	10
Indiana.....	10	9 $\frac{1}{8}$	10	9 $\frac{3}{8}$	10	10
Illinois.....	9 $\frac{3}{8}$	10 $\frac{1}{8}$	10	11	9	10
Missouri.....	14 $\frac{3}{8}$	10 $\frac{5}{8}$	10 $\frac{5}{8}$	10 $\frac{3}{4}$	10	11
Wisconsin.....	11 $\frac{3}{8}$	9 $\frac{3}{8}$	10 $\frac{1}{4}$	10	10	10
Iowa.....	10	10 $\frac{1}{8}$	10 $\frac{1}{2}$	10 $\frac{9}{14}$	10	11
Minnesota.....	10	10 $\frac{3}{4}$	10	10 $\frac{3}{8}$	10	10
Kansas.....	11	12	10	11	11	10
West Virginia.....	10 $\frac{1}{8}$	9 $\frac{5}{8}$	10	10	10 $\frac{1}{8}$	10 $\frac{3}{8}$
Nebraska Territory...	9 $\frac{3}{8}$	13 $\frac{3}{8}$	12 $\frac{3}{8}$	11 $\frac{1}{4}$	10	10

Table showing the condition of the weather, &c.

States.	WEATHER, (in weeks.)											
	November.					December.						
	Favorable.	Wet.	Very wet.	Dry.	Very dry.	Swow.	Favorable.	Wet.	Very wet.	Dry.	Very dry.	Snow.
Maine.....	21	3	0	8	4	4	22	1	0	3	3	6
New Hampshire.....	12	7	1	7	0	1	6	5	0	7	0	10
Vermont.....	11	11	0	1	3	1	5	10	2	13	0	2
Massachusetts.....	21	10	0	10	1	2	15	8	2	8	0	7
Rhode Island.....	6	2	0	0	0	0	3	1	0	2	0	2
Connecticut.....	3	2	0	6	0	1	6	4	1	0	0	1
New York.....	69	37	3	17	3	7	48	22	0	25	0	37
New Jersey.....	29	8	0	7	0	0	16	15	2	2	0	9
Pennsylvania.....	114	35	4	16	1	1	71	34	3	19	1	16
Maryland.....	24	9	0	10	1	0	11	16	8	3	0	6
Delaware.....	1	2	0	1	0	0	0	1	2	1	0	0
Kentucky.....	52	4	2	44	8	6	35	42	0	23	0	1
Ohio.....	109	19	0	73	1	0	77	59	1	39	1	21
Michigan.....	82	8	1	39	4	3	47	8	0	36	7	38
Indiana.....	116	15	0	69	0	3	94	51	4	38	0	20
Illinois.....	117	16	4	86	10	0	75	51	6	61	5	46
Missouri.....	63	12	0	55	7	3	38	13	3	45	5	34
Wisconsin.....	76	13	0	46	7	6	57	1	0	49	6	31
Iowa.....	108	17	1	45	2	5	74	2	0	27	3	69
Minnesota.....	94	6	0	52	7	5	58	3	0	34	7	70
Kansas.....	35	3	0	17	7	1	25	3	0	13	3	24
West Virginia.....	38	8	0	19	14	0	12	27	14	7	5	11
Nebraska Territory.....	15	1	0	21	0	0	3	7	0	8	1	24

WEIGHTS AND MEASURES.

We have compared and corrected the following table of weights and measures with the standard fixed by the general assembly of Illinois. We publish it with the hope that other States will unite in an adherence to the weights as fixed by a State producing and selling so great quantities of agricultural products, much of which is consumed in the eastern States.

Box measures are very useful in measuring corn in the ear, and the "barrel" in the west is five bushels.

But California has set an example worthy of imitation by excluding bushels and selling and pricing agricultural products by weight alone. Its quotations are by the pound, or one hundred pounds. This is a much simpler plan than to be vexed with bushels, having, as in the table below, a different weight for the bushel for nearly every commodity.

Article.	Weight per bushel.	Article.	Weight per bushel.
Wheat.....	60	Blue-grass seed.....	14
Shelled corn.....	45	Buckwheat.....	52
Corn in the ear.....	70	Dried peaches.....	38
Peas.....	60	Dried apples.....	24
Rye.....	56	Onions.....	57
Oats.....	32	Salt.....	50
Barley.....	47	Stone coal.....	80
Irish potatoes.....	60	Malt.....	38
Sweet potatoes.....	55	Bran.....	20
White beans.....	60	Turnips.....	55
Castor beans.....	46	Plastering hair.....	8
Clover seed.....	60	Unslacked lime.....	80
Timothy seed.....	45	Corn meal.....	48
Flax seed.....	56	Fine salt.....	55
Hemp seed.....	44	Ground peas.....	24

A box 24 by 16 inches, 22 deep, contains 1 barrel; a box 16 by 16 $\frac{1}{2}$ inches, 8 deep, contains 1 bushel; a box 8 by 8 $\frac{1}{2}$ inches, 8 deep, contains 1 peck; a box 4 by 4 inches, 4 $\frac{1}{2}$ deep, contains half gallon; a box 4 by 4 inches, 2 $\frac{1}{2}$ deep, contains 1 quart.

Ten gallons pickled onions, 83 pounds; ten gallons sour krout, 81 pounds.

RAILROAD FREIGHTS FROM CHICAGO.

The following table exhibits some reduction on the railroad freights from Chicago from the table published in our last report. The reduction is not at all as great as it should be:

	Class 1.	Class 2.	Class 3.	Class 4.	By 50 barrels.	Dead hogs.
To Toronto..... Rail..	\$0 95	\$0 85	\$0 58	\$0 27 $\frac{1}{2}$	\$0 85	\$0 85
To Montreal..... do...	1 75	1 55	1 08	77 $\frac{1}{2}$	1 55	1 45
To Albany and Troy..... do...	1 75	1 55	1 08	77 $\frac{1}{2}$	1 58	1 45
To New York..... do...	1 80	1 60	1 10	80	1 60	1 60
To Boston <i>via</i> Albany..... do...	1 90	1 70	1 16	85	1 70	1 70
To Portland and Danville..... do...	1 90	1 70	1 16	85	1 70	1 70
To Philadelphia..... do...	1 90	1 70	1 16	75	1 50	1 50
To Baltimore..... do...	1 90	1 70	1 16	75	1 50	1 50
To Cincinnati..... do...	70	60	45	25	50	.....

Memphis and New Orleans fourth-class freight to Memphis, *via* Illinois Central railroad and river, 60 cents, and to New Orleans 65 cents; flour to the same points, \$1 30 and \$1 35 per barrel respectively.

IMPORTS AND EXPORTS.

Imports in 1865 and other years, of dry goods in New York.

Years.	MANUFACTURES OF—				Miscellaneous.	Total.	General merchan- dise.	Total of dry goods and gen- eral merchan- dise.
	Wool.	Cotton.	Silk.	Flax.				
1861.	\$16,845,163	\$7,089,524	\$13,334,423	\$3,580,303	\$2,808,800	\$43,633,670		
1862.	25,718,592	8,501,512	11,564,107	7,668,901	2,665,268	56,091,528	\$115,954,822	\$172,076,049
1863.	29,636,953	7,903,949	15,488,836	11,067,012	3,731,098	67,877,830	117,124,716	184,399,263
1864.	31,441,965	8,405,246	16,194,080	11,621,831	3,956,630	71,589,752	133,473,764	205,063,516
1865.	36,074,535	15,350,064	20,556,261	15,402,602	4,581,616	91,965,138	125,843,189	217,808,327

EXPORTS AND PRICES OF FARM PRODUCE.

Exports from New York of the leading agricultural products from January 1, 1866, to January 30, compared with those for the same time in 1865, and their prices in New York and Chicago.

Articles.	1866.	1865.	Prices January 30, New York.	Prices January 24, Chicago.
Wheat.....barrels..	87,830	126,906	\$6 85 to \$10 30	\$4 00 to \$10 25
Rye flour.....do.....	120			4 00 to 4 50
Corn meal.....do.....	6,182	14,366		
Wheat.....bushels..	50,284	43,834	1 73 to 1 76	83½ to 1 23½
Corn.....do.....	422,664	30,835	84 to 94½	37½ to 43
Rye.....do.....	17,923	141	90	51½ to 52
Barley.....do.....				95 to 1 33
Oats.....do.....	11,613	7,560	52 to 59	21½ to 24½
Peas.....do.....	7,536	6,049	1 30	
Cotton.....bales..	40,299	1,625	49 to 50	
Hay.....do.....	6,018	4,479	85 to 95	50 to 60
Hops.....do.....	95	3,844	20 to 65	45 to 60
Leaf tobacco.....hhds..	3,148	13,066	4½ to 14	
Leaf tobacco.....packages..	5,385	10,002		
Manufact'd tobacco..lbs..	108,383	528,333		
Petroleum.....gallons.	2,420,804	630,031	54	
Pork.....barrels..	6,369	12,222	28 00 to 29 50	22 50 to 26 50
Beef.....do.....	1,241	4,776	17 00 to 22 00	12 00 to 15 00
Beef.....tierces.	3,435	7,217		
Cut meats.....pounds..	1,548,789	4,354,303	11½ to 18	11 to 15
Butter.....do.....	185,601	2,166,137	20 to 42	17 to 28
Cheese.....do.....	983,402	4,834,989	15 to 19½	17 to 22
Lard.....do.....	1,949,904	2,354,660	15½ to 17½	16½ to 17
Tallow.....do.....	704,155	3,679,529		
Wool, fleeco.....do.....			57½ to 70	45 to 52
Sorghum molasses..galls..				40 to 50

Imports of a few leading articles of general merchandise at New York from foreign ports for the following years:

Articles.	1862.	1863.	1864.	1865.
Books	\$376,607	\$371,430	\$327,716	\$488,977
Buttons	162,452	176,443	415,863	1,018,321
Cheese	60,155	47,957	59,207	113,485
China ware	210,968	263,218	348,737	353,583
Cigars	1,012,162	608,403	788,237	955,091
Coal	901,311	808,456	693,268	860,542
Coffee	8,517,284	7,796,635	14,543,955	12,834,059
Cotton	6,121,403	13,153,314	11,157,449	5,825,084
Earthenware	887,322	1,067,477	1,205,473	1,130,236
Furs	1,435,518	1,912,166	2,053,780	2,794,445
Glass plates	176,512	363,459	425,524	531,110
India-rubber	992,348	1,407,536	1,196,781	1,183,421
Indigo	2,083,180	713,730	706,806	947,069
Leather and dried skins	1,278,688	1,087,266	1,157,663	2,738,810
Undried skins	5,134,345	5,966,395	5,829,337	5,470,011
LIQUORS.				
Brandy	477,213	261,234	574,878	166,949
METALS.				
Copper	670,478	574,286	689,048	279,627
Iron bars	1,301,010	2,457,575	3,427,850	1,134,393
Iron, pig	203,375	397,916	803,788	385,678
Iron, railroad	500,419	1,484,973	3,687,970	1,558,334
Iron, sheet	329,461	270,576	383,975	160,078
Lead	3,075,313	1,520,519	2,682,319	1,232,939
Spelter	135,195	204,710	336,540	226,985
Steel	1,602,391	2,063,842	2,012,197	1,624,755
Tin and tin plates	4,174,651	3,975,605	3,461,424	4,913,623
Zinc	228,832	228,210	370,675	163,614
MISCELLANEOUS.				
Molasses	1,562,904	1,928,598	3,496,790	3,299,425
Rags	1,285,926	1,228,431	648,054	846,146
Salt	550,161	373,725	448,199	282,761
Saltpetre	336,439	392,349	122,091	109,083
Sugar	14,727,598	14,534,579	15,938,756	22,036,373
Tea	8,676,245	6,796,102	8,172,072	7,089,714
Watches	861,710	920,522	1,450,166	1,996,478
Wines	860,710	1,198,283	2,272,330	1,151,635
Wool and waste	6,860,609	9,035,557	10,015,217	5,347,512

Imports of foreign and Canadian wool into the United States in 1864 and 1865, and the countries from whence imported. The values given are on the gold basis.—Total of wool consumed in the United States in 1865.

Countries.	1864.			1865.		
	No.	Weight.	Entered.	No.	Weight.	Entered.
	<i>Bales.</i>	<i>Pounds.</i>	<i>Value.</i>	<i>Bales.</i>	<i>Pounds.</i>	<i>Value.</i>
England	15,463	6,551,586	\$1,312,317	9,343	4,675,428	\$918,330
Buenos Ayres.....	14,121	11,582,990	1,780,496	14,649	12,075,246	1,531,511
France	21,477	5,837,840	1,080,041	2,347	654,128	112,973
Belgium	1,745	1,005,840	264,840	1,570	1,375,082	210,664
Africa	24,651	10,973,155	2,007,742	8,186	3,744,908	615,535
Brazil	2,115	1,306,529	219,311	1,138	833,986	107,135
Tuscany	257	150,331	15,680			
Bremen	283	96,396	24,799			
New Grenada.....	4,921	6,362,122	547,562	4,231	2,494,381	504,301
Wrecked				11	5,200	577
Spain	499	137,324	22,710			
Italy	79	26,299	5,124			
Hamburgh	1,651	281,041	38,847	104	78,018	9,280
Gibraltar	421	83,699	14,316			
Portugal	878	175,889	29,281			
British West Indies	340	316,059	42,529	15	652	63
Porto Rico.....	410	128,438	17,616			
Turkey	1,869	537,884	113,803	8	4,180	216
Dutch West Indies	48	15,932	1,953	7	2,525	271
Mexico	1,108	460,599	60,562	619	325,755	39,370
Cisplatine Repub.	3,923	3,409,672	613,844	828	706,223	92,424
Russia	9,445	3,505,189	600,343	7,415	3,059,183	438,748
British E. Indies.	3,586	1,247,396	233,730	5,360	2,659,572	250,516
British P. in Africa	1,174	518,954	93,892			
Chili	3,527	1,539,795	194,849	2,680	1,218,802	134,628
China	36	4,800	439	6	906	125
Austria	66	27,045	7,527			
Morocco	1,096	356,133	47,295			
Danish W. Indies.	135	4,436	512	38	10,663	1,137
Greece	575	230,755	26,330	10	4,097	462
Colombia.....				325	183,350	41,400
British Australia.				1,109	403,631	77,732
Holland				149	133,101	21,835
Totals	115,799	56,874,128	9,418,291	60,148	34,049,017	5,609,253
Canada		3,202,642	1,328,851		3,486,079	1,527,275
Grand totals		60,076,770	10,747,142		37,535,096	7,136,528

	<i>Pounds.</i>	<i>Value.</i>
In 1863 the amount of foreign wool imported was	48,744,901	\$8,121,032
In 1863 the amount of Canadian wool imported was	2,475,918	974,153
Totals.....	51,220,819	9,095,185

	<i>Pounds.</i>	<i>Value.</i>
The increase in 1864 over 1863, was.....	8,555,951	\$1,651,957
The decrease in 1865 from 1864, was.....	22,541,674	3,610,614

The Canadian returns of their exports of wool to the United States do not agree with our returns of the imports of wool from the Canadas. These returns for 1863 are as follows :

	<i>Pounds.</i>	<i>Value.</i>
Canadian returns.....	2,475,918	\$974,153
United States returns	1,980,053	781,867
Difference.....	<u>495,865</u>	<u>192,286</u>

If like differences exist as to other articles and as to other nations, and they are owing to our laws relative to the registering of exports and imports, it is necessary that these laws were amended.

Stock of wool on hand in New York January 1.

	1865.	1866.
Foreign.....pounds	13,000,000	7,800,000
Domestic.....do..	4,760,000	4,450,000
Total.....pounds	<u>17,700,000</u>	<u>12,250,000</u>

The wool consumption of the United States for 1865 may be estimated to have been as follows :

Domestic production of loyal Atlantic States, pounds.....	114,589,076
Domestic production of California, pounds	8,480,931
Foreign, (including Canada)	37,535,096
Total consumed in 1865, pounds	<u>160,605,103</u>

• EXPORTS OF PETROLEUM AND IMPORTS OF COFFEE, SUGAR, AND MOLASSES.

For the following tables of the exports of petroleum and the imports of coffee, sugar, and molasses, we are indebted to that excellent commercial paper, the Shipping and Commercial List, of New York.

These will attract the attention of our readers, for the foreign trade in that most strange of all products of the earth, petroleum, is as interesting to the farmer as to any other class not directly engaged in the oil business, and the imports of the "leading groceries," having such universal consumption in our country, have been always sought for by those consuming them. How far we shall ever make our country independent for sugar and molasses is an unsolved problem. But Louisiana once divided into small plantations, and with the present promised success realized in sorghum sugar production, these heavy imports may be greatly reduced.

Exports of crude and refined petroleum, including naphtha, from New York, for the following years.

To—	1865.	1864.	1863.	1862.
	<i>Gallons.</i>	<i>Gallons.</i>	<i>Gallons.</i>	<i>Gallons.</i>
Liverpool	1,605,302	734,755	2,156,851	1,781,377
London	376,288	1,430,710	2,576,381	1,333,399
Glasgow, &c.	156,147	368,402	414,913	24,181
Bristol	110,412	29,124	71,912	.....
Falmouth	569,815	316,402	693,176	.....
Grangemouth, E.	102,292	.....	425,384	.....
Cook, &c.	1,157,486	3,310,362	1,532,251	299,353
Rowling, E. ....	.....	87,164	.....	195
Havre	604,330	2,324,017	1,774,890	794,221
Marseilles	1,333,752	1,982,075	1,167,893	135,765
St. Nazaire and Rouen	9,811	.....	143,846	.....
Cette .....	.....	4,860	.....	200
Dunkirk	110,099	232,898	.....	2,700
Dieppe .....	.....	79,681	46,000	61,692
Antwerp	1,749,062	4,119,821	2,692,974	823,090
Bremen	231,983	971,205	903,004	452,522
Amsterdam .....	.....	77,041	436	.....
Hamburg	1,019,300	1,186,080	1,466,155	229,334
Rotterdam	292,569	532,926	751,249	18,938
Gottenburg .....	.....	33,813	.....	81,960
Cronstadt	891,389	400,376	88,060	.....
Stettin	58,317	.....	.....	.....
Cadiz and Malaga	97,782	58,474	33,280	.....
Tarragona and Alicante	41,988	16,823	33,000	.....
Barcelona	5,128	25,500	.....	.....
Gibraltar and Malta	73,751	69,180	308,450	157
Oporto	28,205	17,474	2,339	.....
Naples and Palermo	22,615	7,983	57,115	3,990
Genoa and Leghorn	666,611	679,606	339,674	21,000
Trieste	66,871	165,175	3,609	.....
Alexandria, Egypt .....	.....	4,000	.....	.....
Lisbon	93,743	167,195	64,662	.....
Canary islands	5,244	3,358	5,125	1,296
Madeira .....	.....	.....	460	400
Bilbao	153,818	2,500	.....	.....
China and East Indies	44,630	34,338	36,912	3,970
Africa	17,090	25,195	12,230	655
Australia	735,891	377,884	394,166	253,699
Otago, N. Z.	14,880	10,810	5,500	7,350
Sydney, N. S. W.	162,920	97,830	48,013	113,750
Brazil	291,752	149,670	160,152	54,967
Mexico	194,936	112,981	69,481	18,616
Cuba	716,730	418,134	356,436	218,686
Argentine Republic	68,856	20,260	24,470	7,380
Cisplatine Republic	72,852	78,552	117,626	13,227
Chile	53,226	92,550	66,550	17,800
Peru	110,840	169,061	256,007	56,011
British Honduras	2,052	6,072	440	.....
British Guiana	5,800	7,880	15,104	9,396
British West Indies	106,941	70,918	60,934	18,888
British North American colonies	104,080	28,902	16,995	2,918
Danish West Indies	10,947	8,463	31,593	4,102
Dutch West Indies	18,399	26,338	12,143	7,117
French West Indies	32,618	16,020	9,104	2,332
Hayti	13,856	7,088	12,064	4,856
Central America	5,494	993	455	1,764
Venezuela	39,791	28,583	15,455	1,094
New Grenada	58,570	57,490	107,837	37,058
Porto Rico	43,355	20,028	59,439	2,244
Total	14,626,090	21,335,784	19,547,604	6,720,273

Total export from the United States.

From—	1865.	1864.	1863.	1862.
	<i>Gallons.</i>	<i>Gallons.</i>	<i>Gallons.</i>	<i>Gallons.</i>
New York.....	14,626,090	21,335,784	19,547,604	6,720,273
Boston.....	1,511,173	1,696,307	2,049,431	1,071,100
Philadelphia.....	12,552,882	7,769,148	5,395,788	2,800,978
Baltimore.....	973,107	929,971	915,866	175,100
Portland.....	11,088	70,762	342,082	120,250
New Bedford.....	50,000	-----	-----	-----
Cleveland.....	81,173	80,000	-----	-----
Total.....	29,805,523	31,872,972	28,250,721	10,837,701
Equal to barrels.....	745,138	796,824	706,268	272,192
Total value calculated by the average price for <i>refined in bond</i> as below.....	\$17,313,133 14	\$20,718,357 98	\$12,434,554 84	-----

Average of prices of petroleum for each month for the year 1865, in New York.

Months.	Crude.	FREE.	IN BOND.	Naphtha.
		Refined.	Refined.	
	<i>Cents.</i>	<i>Cents.</i>	<i>Cents.</i>	<i>Cents.</i>
January.....	49 $\frac{3}{4}$	90	69 $\frac{13}{16}$	56 $\frac{1}{4}$
February.....	47 $\frac{1}{2}$	87 $\frac{7}{8}$	67 $\frac{1}{10}$	53 $\frac{9}{10}$
March.....	36 $\frac{1}{2}$	78 $\frac{3}{8}$	58 $\frac{7}{16}$	51 $\frac{1}{4}$
April.....	36 $\frac{1}{2}$	72 $\frac{3}{8}$	52 $\frac{3}{4}$	46 $\frac{5}{8}$
May.....	36 $\frac{1}{8}$	70 $\frac{13}{16}$	51 $\frac{1}{2}$	48 $\frac{1}{4}$
June.....	34 $\frac{3}{8}$	70 $\frac{1}{2}$	51 $\frac{1}{2}$	49 $\frac{1}{8}$
July.....	33	71 $\frac{1}{16}$	52 $\frac{7}{16}$	49 $\frac{1}{4}$
August.....	32 $\frac{1}{8}$	71 $\frac{1}{8}$	52 $\frac{1}{16}$	45 $\frac{5}{8}$
September.....	36 $\frac{1}{2}$	78	59 $\frac{1}{2}$	48 $\frac{7}{16}$
October.....	37 $\frac{3}{8}$	81	61 $\frac{3}{8}$	52 $\frac{1}{10}$
November.....	39 $\frac{1}{8}$	81 $\frac{13}{16}$	63 $\frac{3}{8}$	52 $\frac{1}{16}$
December.....	41 $\frac{1}{8}$	85 $\frac{1}{8}$	65 $\frac{1}{2}$	50
Average of the year 1865.....	38.37 $\frac{1}{2}$	77.87 $\frac{1}{2}$	58.87 $\frac{1}{2}$	50.37 $\frac{1}{2}$
Average of the year 1864.....	41.81	74.61	65.03	39.54
Average of the year 1863.....	28.13	51.74	44.15	28.50

Import receipts, consumption, and prices of coffee for the following years :

		Receipts.	Consumption.
1865.....	pounds..	133, 574, 397	128, 146, 356
1864.....	pounds..	145, 304, 957	169, 086, 703
1863.....	pounds..	75, 269, 417	79, 719, 641
1862.....	pounds..	98, 558, 680	88, 989, 011
1861.....	pounds..	182, 244, 627	187, 045, 786
1860.....	pounds..	185, 779, 689	177, 111, 923
1859.....	pounds..	248, 527, 306	222, 610, 300
1858.....	pounds..	227, 656, 186	251, 255, 099
1857.....	pounds..	217, 871, 820	172, 565, 934
1856.....	pounds..	230, 913, 150	218, 225, 490
1855.....	pounds..	238, 214, 533	218, 378, 287

Average price of coffee for each month.

	BRAZIL.			ST. DOMINGO.		
	1865.	1864.	1863.	1865.	1864.	1863.
January	43. 83	33. 92	30. 08	40. 33	30. 50	27. 58
February	43. 83	34. 54	32. 17	41. 41	30. 92	29. 08
March*.....	20. 25	36. 92	33. 75	37. 87	33. 00	31. 00
April.....	19. 91	42. 54	32. 00	27. 12	37. 42	28. 92
May.....	21. 25	45. 50	32. 00	25. 25	38. 58	29. 25
June†.....	22. 00	42. 92	30. 66	18. 91	36. 54	28. 42
July.....	20. 91	49. 92	28. 83	18. 21	41. 50	27. 25
August.....	20. 16	50. 42	27. 17	17. 62	42. 75	25. 58
September.....	20. 66	47. 33	28. 83	17. 69	42. 50	24. 92
October.....	20. 91	37. 75	32. 33	18. 37	34. 50	28. 08
November.....	20. 50	43. 17	32. 50	18. 25	40. 17	28. 67
December.....	19. 58	41. 92	33. 79	18. 00	41. 42	29. 25
Average for the year	20. 65	42. 49	31. 18	18. 78	37. 48	28. 17

	MARACAIBO AND LA- GUAYRA.			JAVA.		
	1865.	1864.	1863.	1865.	1864.	1863.
January	43. 33	33. 50	31. 08	50. 16	40. 50	33. 58
February	43. 33	33. 92	32. 25	47. 83	41. 17	35. 92
March†.....	39. 25	36. 42	33. 66	42. 66	42. 83	38. 75
April.....	30. 25	41. 17	32. 75	33. 41	49. 33	37. 75
May.....	29. 04	44. 33	32. 00	33. 58	51. 83	37. 21
June.....	30. 41	42. 17	32. 00	34. 41	49. 92	36. 92
July.....	20. 50	47. 50	31. 25	24. 41	53. 83	35. 75
August.....	20. 33	48. 58	29. 58	25. 50	57. 50	35. 25
September.....	20. 75	47. 08	29. 92	26. 66	57. 42	35. 75
October.....	22. 00	37. 17	32. 58	32. 00	44. 92	34. 17
November.....	22. 50	43. 50	32. 75	29. 66	49. 75	39. 33
December.....	21. 58	43. 75	33. 33	27. 83	50. 17	40. 16
Average for the year	21. 30	41. 59	31. 93	25. 82	49. 10	37. 04

* Quotations for Brazil from this time in gold.

† Quotations for St. Domingo from this time in gold.

‡ The average for 1865, from March, is on a gold basis; the other years on the currency basis.

Consumption of cane molasses in the United States.

		Total.	Foreign
1865.....	gallons..	35, 185, 038	34, 335, 038
1864.....	gallons..	32, 581, 668	28, 753, 668
1863.....	gallons..	37, 569, 088	26, 569, 088
1862.....	gallons..	62, 668, 400	25, 650, 400
1861.....	gallons..	40, 191, 556	20, 383, 556
1860.....	gallons..	47, 318, 877	28, 724, 205
1859.....	gallons..	54, 260, 970	28, 293, 210
1858.....	gallons..	45, 169, 164	24, 795, 374
1857.....	gallons..	28, 508, 784	23, 266, 404
1856.....	gallons..	39, 608, 878	23, 014, 878
1855.....	gallons..	47, 266, 085	23, 532, 422

Average prices of molasses.

	1865.	1864.	1863.	1862.
New Orleans.....	119 $\frac{1}{2}$ c.	96 $\frac{3}{4}$ c.	49 $\frac{1}{16}$ c.	46 $\frac{3}{8}$ c.
Porto Rico.....	67 $\frac{3}{4}$ c.	89 c.	51 $\frac{9}{10}$ c.	37 $\frac{1}{2}$ c.
Cuba, muscovado.....	58 $\frac{1}{2}$ c.	77 $\frac{7}{8}$ c.	44 $\frac{1}{6}$ c.	29 c.
Cuba, clayed.....	45 $\frac{1}{2}$ c.	65 $\frac{1}{2}$ c.	37 $\frac{1}{6}$ c.	24 $\frac{1}{8}$ c.

Consumption of foreign and domestic cane sugar in the United States.

(Ton 2,240 pounds.)

	Foreign.	Domestic.	Total.
1865.....	tons.. 345, 809	5, 000	350, 809
1864.....	tons.. 192, 660	28, 000	220, 660
1863.....	tons.. 231, 308	53, 000	284, 308
1862.....	tons.. 241, 411	184, 600	432, 411
1861.....	tons.. 241, 420	122, 399	363, 819
1860.....	tons.. 296, 950	118, 331	415, 281
1859.....	tons.. 239, 034	192, 150	431, 184
1858.....	tons.. 244, 758	143, 634	388, 492
1857.....	tons.. 241, 765	39, 000	280, 765
1856.....	tons.. 255, 292	123, 468	378, 760
1855.....	tons.. 192, 604	185, 148	377, 752

Average prices of sugar.

	1865	1864.	1863.	1862
New Orleans.....	18.75	18.65	11.16	8.84 $\frac{1}{3}$
Cuba, muscovado.....	13.84	17.22	10.77	7.92 $\frac{2}{3}$
Porto Rico.....	14.98	18.33	11.65	8.59 $\frac{1}{2}$
Havana, white.....	18.36	21.77	13.31	10.55 $\frac{1}{2}$
Havana, brown.....	13.33	17.74	11.34	8.38
Manila.....	12.73	16.71	10.71	7.96
Brazil, brown.....	12.28	16.97	10.73	7.93 $\frac{3}{4}$
Melado.....	9.22	11.59	6.83	4.79 $\frac{1}{6}$

METEOROLOGY.

DECEMBER, 1865.

Table showing the highest and lowest range of the thermometer, (with dates prefixed,) the mean temperature, and amount of rain, (in inches and tenths,) for December, 1865, at the following places, as given by the observers named. The daily observations were made at 7 o'clock a. m. and 2 and 9 p. m.

Place.	County.	Observer's name.	Date.	Max.	Date.	Min.	Mean.	Rain.
MAINE.								
Steuben	Washington	J. D. Parker	27	50	23	—11	24.2	4.95
Lee	Penobscot	Edwin Pitman	27	50	23	—15	22.1	3.35
West Waterville....	Kennebec	B. F. Wilbur	13	46	22	—6	24.1	3.25
Gardiner	do	R. H. Gardiner	13, 27	47	23	—10	24.4	3.23
Lisbon	Androscoggin	Asa P. Moore						2.94
Webster	do	Almon Robinson	27	47	23	—1	23.8	.....
Standish	Cumberland	John P. Moulton	27	55	22, 23	0	25.3	2.61
Cornish	York	Silas West	27	52	22	—3	24.4	2.72
Cornishville	do	G. W. Guptill	27	54	22	—2	25.7	3.84
NEW HAMPSHIRE.								
Stratford	Coos	Branch Brown	27	49	22	—12	20.5	3.01
Shelburne	do	F. Odell	4, 25	47	23	—1	25.5	1.43
North Barnstead....	Belknap	Chas. H. Pitman	27	56	22	2	29.4	0.95
Claremont	Sullivan	S. O. Mead	27	48	22	—2	26.1	.....
Do	do	Arthur Chase	27	51	22	—3	27.0	3.38
VERMONT.								
Lunenburg	Essex	H. A. Cutting	4	48	22	—17	24.5	1.03
Craftsbury	Orleans	Jas. A. Paddock	27	42	16, 23	—7	21.4	3.48
East Bethel	Orange	Charles S. Paine	27	58	22	—8	26.4	2.32
Middlebury	Addison	H. A. Sheldon	4	45	22	0	27.2	2.46
Brandon	Rutland	Harmon Buckland	27	54	23	0	28.1	1.69
MASSACHUSETTS.								
Topsfield	Essex	A. M. Merriam	27	61	23	11	34.3	3.00
Georgetown	do	Henry M. Nelson	27	62	22	1	29.3	1.65
Newbury	do	Jno. H. Caldwell	27	61	22	2	30.1	.....
Cambridge	Middlesex	A. Fendler	27	59	9	2	30.0	0.83
New Bedford	Bristol	Samuel Rodman	3, 4	57	16	11	36.0	4.28
Worcester	Worcester	Joseph Draper, M.D.	27	59	9, 23	8	32.1	2.75
Mendon	do	Jno. G. Metcalf, M.D.	27	58	9	6	31.7	3.90
Baldwinsville	do	Rev. E. Dewhurst	27	57	23	3	.....	.....
Amherst	Hampshire	Prof. E. S. Snell	27	60	23	7	28.9	3.54
Springfield	Hampden	J. Weatherhead	27	53	22, 24	4	30.5	3.12

Table showing the range of the thermometer, &c., for December—Continued.

Place.	County.	Observer's name.	Date.	Max.	Date.	Min.	Mean.	Rain.
MASSACHUSETTS—Continued.								
Westfield.....	Hampden.....	Rev. E. Davis.....	27	63	22	4	29.9	3.03
Richmond.....	Berkshire.....	Wm. Bacon.....	27	52	23	4	29.0	6.00
Williams College.....	do.....	Prof. A. Hopkins.....	27	52	8, 16, 23	8	29.4	2.12
RHODE ISLAND.								
Newport.....	Newport.....	Wm. H. Crandall.....	4	55	15, 16	16	35.6	5.46
CONNECTICUT.								
Pomfret.....	Windham.....	Rev. D. Hunt.....	27	54	22, 23	7	30.8	2.90
Columbia.....	Tolland.....	Wm. H. Yeomans.....	3	61	22, 23	8	34.3	.....
Middletown.....	Middlesex.....	Prof. John Johnston.....	3, 27	55	22	10	33.5	2.99
Colebrook.....	Litchfield.....	Charlotte Rockwell.....	27	58	23	-2	27.9	.....
NEW YORK.								
Moriches.....	Suffolk.....	Miss N. Smith.....	3	61	16	14	38.9	5.96
South Hartford.....	Washington.....	G. M. Ingalsbe.....	27	50	22	4	29.5	3.45
Albany.....	Albany.....	H. M. Paine, M. D.....	27	57	16	19	37.2	1.67
Fishkill Landing.....	Dutchess.....	Wm. H. Denning.....	3	55	23	14	33.7	3.18
Garrison's.....	Putnam.....	Thomas B. Arden.....	27	64	23	14	29.9	3.27
Throg's Neck.....	Westchester.....	Elizabeth Morris.....	3	56	16	13	34.0	.....
Deaf & Dumb Inst.....	New York.....	Prof. O. W. Morris.....	27	69	15, 16	21	38.9	6.30
Columbia College.....	do.....	H. B. Cornwall.....	27	61	16, 23	16	34.5	3.94
Flatbush.....	Kings.....	Eli T. Mack.....	27	62	23	14	34.9	4.53
Newburgh.....	Orange.....	James H. Gardiner.....	27	62	23	12	34.2	3.50
Gouverneur.....	St. Lawrence.....	Cyrus H. Russell.....	4	52	16	-12	25.1	2.50
South Trenton.....	Oneida.....	Storrs Barrows.....	27	55	16, 23	12	27.1	3.72
Oneida.....	Madison.....	L. Spooner, M. D.....	4	58	23	8	31.3	3.72
Theresa.....	Jefferson.....	S. O. Gregory.....	4	58	16	-5	25.9	2.81
Depauville.....	do.....	Henry Haas.....	4	56	16	2	27.7	4.35
Oswego.....	Oswego.....	Wm. S. Malcolm.....	4	57	16, 17	11	31.7	2.83
Palermo.....	do.....	E. B. Bartlett.....	4	55	16	-2	28.0	4.85
Baldwinsville.....	Onondaga.....	John Bowman.....	4	57	17	9	28.9	.....
Auburn.....	Cayuga.....	John B. Dill.....	4	60	14, 23, 31	10	32.2	.....
Nichols.....	Tioga.....	Robert Howell.....	4	64	16	7	31.7	.....
Geneva.....	Ontario.....	Rev. Dr. W. D. Wilson.....	4	58	15, 16	14	32.2	1.08
Rochester.....	Mouroe.....	Prof. C. Dewey.....	4	61	23	10	31.1	1.75
Do.....	do.....	M. M. Mathews, M. D.....	12	57	23	10	31.2	1.75
Buffalo.....	Erie.....	William Ives.....	12	56	23	9	31.0	3.35
Jamestown.....	Chautauqua.....	Rev. S. W. Roe.....	25	60	16, 22	2	33.7	5.10
NEW JERSEY.								
Paterson.....	Passaic.....	William Brooks.....	3	60	16, 23	16	35.6	5.00
Newark.....	Essex.....	Wm. A. Whitehead.....	27	62	23	14	35.3	4.39
New Brunswick.....	Middlesex.....	Geo. H. Cook.....	27	65	16	11	34.4	5.95
Trenton.....	Mercer.....	E. R. Cook.....	27	62	16	16	38.0	.....
Burlington.....	Burlington.....	John C. Deacon.....	27	62	16	11	33.8	5.55
Moorestown.....	do.....	Thomas J. Beans.....	4	64	15, 23	14	35.1	5.77
Mount Holly.....	do.....	M. J. Rhees, M. D.....	27	63	16	14	36.6	.....
Haddonfield.....	Camden.....	James S. Lippincott.....	27	61	16	11	34.2	5.21
Greenwich.....	Cumberland.....	R. C. Sheppard.....	4	67	16	13	37.5	4.79

Table showing the range of the thermometer, &c., for December—Continued.

Place.	County.	Observer's name.	Date.	Max.	Date.	Min.	Mean.	Rain.
PENNSYLVANIA.								
Nycos.....	Pike.....	John Grathwohl....	4	62	31	—1	27.7	4.15
Fallsington.....	Bucks.....	Ebenezer Hance....	27	63	16	15	35.7	5.20
Philadelphia.....	Philadelphia.....	Pf. J. A. Kirkpatrick	27	63	16	18	37.7	5.68
Germantown.....	do.....	"Telegraph".....	27	62	16	9	33.6	5.73
Moorland.....	Montgomery.....	Anna Spencer.....	3	62	16, 23	11	34.3	3.30
Dyberry.....	Wayne.....	Theodore Day.....	27	55	23	—2	26.4	.....
Nazareth.....	Northampton.....	L. E. Ricksecker....	3, 12	58	16	9	33.6	.....
Ephrata.....	Lancaster.....	W. H. Spera.....	3, 4	70	16	7	32.4	6.33
Silver Spring.....	do.....	H. G. Bruckhart....	4	65	23	10	35.0	.....
Mountjoy.....	do.....	J. R. Hoffer.....	4	65	16, 23	15	37.0	1.75
Harrisburg.....	Dauphin.....	John Heisely, M.D....	4	55	16	16	34.2	3.50
Tioga.....	Tioga.....	E. T. Bentley.....	4	66	16, 22	4	31.3	0.51
Pennsville.....	Clearfield.....	Elisha Fenton.....	4	60	16	2	28.7	3.57
Connellsville.....	Fayette.....	John Taylor.....	3	70	15	1	35.7	.....
Canonsburg.....	Washington.....	Rev. Wm. Smith, D.D.	3, 4, 26	58	15	0	32.5	2.90
MARYLAND.								
Woodlawn.....	Cecil.....	Jas. O. McCormick..	4	68	16	11	37.1	6.00
Annapolis.....	Anne Arundel....	Wm. R. Goodman....	4	69	16	11	38.7	5.43
St. Inigoes.....	St. Mary's.....	Rev. J. Stephenson..	4, 27	70	16	14	40.1	4.31
Frederick.....	Frederick.....	Miss H. M. Baer....	4	66	16	1	34.0	4.10
Catonsville.....	Baltimore.....	George S. Grape....	27	59	16	10	33.1	.....
DIST. OF COLUMBIA.								
Washington.....	Washington.....	Smithsonian Instit'n.	4	69	16	12	38.3	5.20
VIRGINIA.								
Wythesville.....	Wythe.....	Howard Shriver....	3	64	15	8	39.6	.....
WEST VIRGINIA.								
Weston.....	Lewis.....	Benjamin Owen....	3, 4	69	23	5	40.1	.....
GEORGIA.								
Atlanta.....	Fulton.....	Frederick Deckner..	3	75	15	19	47.9	8.66
MISSISSIPPI.								
Natchez.....	Adams.....	Robert McCary.....	3, 4 25, 26	76	14, 15	22	52.5	6.30
ARKANSAS.								
Helena.....	Phillips.....	O. F. Russell.....	2	79	14	13	45.5	5.22
TENNESSEE.								
Clarksville.....	Montgomery.....	Wm. M. Stewart....	3	74	14	8	40.4	9.76
KENTUCKY.								
Louisville.....	Jefferson.....	Mrs. L. Young.....	3	72	14, 15	6	37.7	7.90
Chilesburg.....	Fayette.....	S. D. Martin, M.D..	3	70	15	4	38.3	8.94
Danville.....	Boyle.....	O. Beatty.....	3	72	14, 15	8	39.8	8.63
OHIO.								
Austinburg.....	Ashtabula.....	E. D. Winchester....	3	56	16	—2	23.1	3.00
Saybrook.....	do.....	James B. Fraser....	12	58	16	1	30.9	4.55
New Lisbon.....	Columbiana.....	J. F. Benner.....	4	68	15	5	33.6	2.03

Table showing the range of the thermometer, &c., for December—Continued.

Place.	County.	Observer's name.	Date.	Max.	Date.	Min.	Mean.	Rain.
OHIO—Cont'd.								
East Fairfield.....	Columbiana.....	S. B. McMillan.....	3, 4	62	15, 16	5	32.9	1.61
Steuenville.....	Jefferson.....	Roswell Marsh.....				-5	35.4	3.31
Welshfield.....	Geauga.....	B. F. Abell, A. M.....	3	57	15, 23	2	31.3	2.81
Milnersville.....	Guernsey.....	Rev. D. Thompson.....	4	60	23	0	30.0	3.02
East Cleveland.....	Cuyahoga.....	Mr. & Mrs. G. A. Hyde.....	12	61	15	3	32.8	3.71
Wooster.....	Wayne.....	Martin Winger.....	12	60	23	-4	41.4	
Gallipolis.....	Gallia.....	A. P. Rogers.....	3	75	23	9	40.2	5.13
Kelley's Island.....	Erie.....	Geo. C. Huntington.....	3, 4	52	23	6	31.6	3.36
Norwalk.....	Huron.....	Rev. A. Newton.....	4	59	23	-2	30.6	2.81
Westerville.....	Franklin.....	Pf. H. A. Thompson.....	3	63	15	1	33.0	4.11
Kingston.....	Ross.....	Prof. Jno. Haywood.....	3	72	15	4	35.7	3.10
Toledo.....	Lucas.....	J. B. Trembly, M.D.....	11	51	28	10	29.9	3.56
Marion.....	Marion.....	H. A. True, M.D.....	3	58	23	-1	31.1	3.60
Urbana University.....	Champaign.....	Prof. M. G. Williams.....	4	64	14, 15	1	31.3	3.20
Hillsboro'.....	Highland.....	J. McD. Mathews.....	3	68	15	4	33.7	4.49
Ripley.....	Brown.....	G. Bambach, M.D.....	2, 3	68	15	9	40.0	3.73
Bothel.....	Clermont.....	Geo. W. Crane.....	3	71	15	4	36.1	4.78
Cincinnati.....	Hamilton.....	George W. Harper.....	3	69	14	5	37.0	3.89
College Hill.....	do.....	L. B. Tuckerman.....	3	70	15	3	32.9	4.88
MICHIGAN.								
Monroe.....	Monroe.....	Misses Whelpley.....	3	55	23	-2	30.5	1.86
State Ag. College.....	Ingham.....	Prof. R. C. Kedzie.....	11	46	23	-5	26.7	1.43
Homestead.....	Benzie.....	G. E. Steele.....	11	47	23	-5	25.0	
INDIANA.								
Vevay.....	Switzerland.....	Chas. G. Boerner.....	3	76	15	4	36.7	6.70
Richmond.....	Wayne.....	John Valentine.....	2, 3	58	14, 15	1	31.4	4.40
Spiceland.....	Henry.....	Wm. Dawson.....	2, 3	58	14	-1	30.0	4.10
Columbia.....	Whitley.....	Dr. F. & Miss McCoy.....	3	58	23	-12	27.0	2.73
Indianapolis.....	Marion.....	W. W. Butterfield.....	3	60	14	-1	30.6	
New Harmony.....	Posey.....	Jno. Chappellsmith.....	3	70	14	5	34.8	5.84
ILLINOIS.								
Chicago.....	Cook.....	Samuel Brookes.....	11	42	21	-12	20.5	
Evanston.....	do.....		7	49	21	-9	24.9	
Marengo.....	Mcllenry.....	J. S. Rogers.....	11	45	21	-11	21.5	
Riley.....	do.....	E. Babcock.....			22	-22		0.30
Aurora.....	Kane.....	Abiram Spaulding.....	11	45	21	-15	22.2	0.60
Sandwich.....	DeKalb.....	N. E. Ballou, M.D.....	11	45	21	-17	20.3	0.45
Ottawa.....	La Salle.....	Mrs. E. H. Merwin.....	11	49	21	-19	23.7	0.59
Winnebago.....	Winnebago.....	J. W. & Miss Tolman.....	11	43	21	-17	19.0	0.74
Wyanet.....	Bureau.....	E. S. & Miss Phelps.....	11	50	21	-17	22.1	0.54
Tiskilwa.....	do.....	Verry Aldrich.....	11	58	21	-12	24.1	
Elmira.....	Stark.....	O. A. Blanchard.....	10	49	21	-18	22.8	0.40
Hennepin.....	Putnam.....	Smiley Shepherd.....	11	48	21	-16	21.0	
Peoria.....	Peoria.....	Frederick Brendel.....	11	50	21	-9	25.5	1.00
Springfield.....	Sangamon.....	G. M. Brinkerhoff.....	2	62	21	-4	28.8	
Dubois.....	Washington.....	Wm. C. Spencer.....	10	57	14	-2	30.5	5.7
Waverly.....	Morgan.....	Timothy Dudley.....	11	55	21	-10	25.0	2.1
Galesburg.....	Knox.....	Pf. W. Livingston.....	2	45	21	-14	21.7	1.0
Angusta.....	Hancock.....	S. B. Mead, M. D.....	11	51	21	-16	23.8	1.25
Manchester.....	Scott.....	Dr. J. & Miss E. Grant.....	2	57	15, 21	-7	25.3	1.63

Table showing the range of the thermometer, &c., for December—Continued.

Place.	County.	Observer's name.	Date.	Max.	Date.	Min.	Mean.	Rain.
WISCONSIN.								
Manitowoc	Manitowoc	Jacob Lüps	10, 11	44	15	-8	24.2	0.77
Milwaukee	Milwaukee	I. A. Lapham, LL.D.	11	46	15	-9	22.5	0.52
Do.	do	Carl Winkler	10	44	15	-8	23.9	.....
Ripon	Fond du Lac	Prof. Wm. H. Ward	10	43	15	-9	22.2	.....
Delavan	Walworth	Leveus Eddy	11	45	15	-11	19.7	0.32
Waupaca	Waupaca	H. C. Mead	11	44	15	-11	21.1	0.11
Weyauwega	do	J. C. Hicks	26	50	15	-15	22.0	.....
Embarrass	do	E. Everett Breed	2	44	15	-16	19.2	0.85
Rocky Run	Columbia	W. W. Curtis	10	45	15	-12	21.4	0.38
Baraboo	Sauk	M. C. Waite	3	46	14, 21	-4	23.3	0.85
Beloit	Rock	H. D. Porter	10	45	21	-20	20.5	1.40
Plymouth	Sheboygan	G. Moeller	10, 11, 25, 26	43	15	-13	21.0	0.80
Odanah	Ashland		3	40	15, 22	-6	.....	.....
MINNESOTA.								
Beaver Bay	Lake	C. Wieland	25	42	20	-16	13.7	0.77
Afton	Washington	Dr. & Mrs. Babeock	10, 24	37	21	-32	10.6	.....
St. Paul	Ramsey	Rev. A. B. Paterson	10	36	21	-26	10.3	2.19
Minneapolis	Hennepin	Wm. Cheney	10	41	21	-33	8.0	2.28
Forest City	Meeker	H. L. Smith	9	44	15	-30	12.0	1.70
Sibley	Sibley	C. W. & C. E. Wood, bury.	24	37	22	-26	.....	0.70
New Ulm	Brown	Charles Roos	10	42	21	-32	11.8	0.99
IOWA.								
Clinton	Clinton	Dr. J. P. Farnsworth	25	46	21	-20	21.0	2.20
Davenport	Scott	George B. Pratt	11	43	21	-15	20.4	0.40
Dubuque	Dubuque	Asa Horr, M. D.	10	44	21	-18	20.8	1.04
Muscatine	Muscatine	I. P. Walton	11	44	21	-17	21.0	0.62
Fort Madison	Lee	Daniel McCready	1	51	21	-15	25.1	1.11
Guttenberg	Clayton	Philip Dorweiler	10	45	21	-21	17.5	.....
Ceres	do	John M. Hagensick	11	42	21	-22	17.3	.....
Manchester	Delaware	Allen Mead	25	42	21	-27	17.7	0.46
Mount Vernon	Linn	Prof. A. Collins	11, 25	44	21	-18	19.0	.....
Iowa City	Johnson	Prof. T. S. Parvin	11	50	21	-17	21.0	0.32
Independence	Buchanan	A. C. Wheaton	25	44	21	-27	14.0	1.00
Do.	do	D. S. Deering	11	44	21	-18	17.7	.....
Waterloo	Black Hawk	T. Steed	11, 25	46	20	-13	18.6	.....
Iowa Falls	Hardin	N. Townsend	10	38	22	-12	17.1	1.17
Des Moines	Polk	Rev. J. A. Nash	1	50	21	-22	19.2	.....
Clarinda	Page	Dr. S. H. Kridelbaugh	1, 4, 28	48	21	-9	26.0	0.81
MISSOURI.								
St. Louis University	St. Louis	Rev. F. H. Stuntebeck	2	64	21	2	32.2	2.80
Athens	Clark	J. T. Caldwell	11	60	21	-10	27.0	0.75
Canton	Lewis	George P. Ray	1	50	21	-19	22.4	1.22
Harrisonville	Cass	John Christian	1	56	21	-7	24.6	1.03
Easton	Buchanan	P. B. Sibley	1	56	21	-12	22.8	1.80
KANSAS.								
Olathe	Johnson	W. Beckwith	1	57	21	-9	22.7	1.76
Atchison	Atchison	Dr. H. B. & Miss Horn	3	50	14, 15	-8	21.2	.....
Fort Riley	Davis	Jos. M. Shaffer	1	56	13, 15	-7	21.2	1.25

Table showing the range of the thermometer, &c., for December—Continued.

Place.	County.	Observer's name.	Date.	Max.	Date.	Min.	Mean.	Rain.
NEBRASKA TER.								
Elkhorn.....	Washington	John S. Bowen	1	56	21	—20	15.7	0.63
Bellevue	Sarpy.....	Rev. Wm. Hamilton.	1	52	21	—15	16.3	1.39
UTAH TER.								
Great Salt Lake city.	Great Salt Lake.	W. W. Phelps.....	1	42	15	6	23.0	6.69
CALIFORNIA.								
Sacramento	Sacramento.....	Th. M. Logan, M. D.	10	58	19	31	45.0	0.36

Table showing the average temperature and fall of rain (in inches and tenths) for the month of December, in each year named, and for the five years first named, collectively, with the average number of places in each State in which the observations were made.

States and Territories.	Av. number of places.	Averages, 1855.		Averages, 1856.		Averages, 1857.		Averages, 1858.		Averages, 1859.		Av. for five years.		Averages, 1863.		Averages, 1864.		Averages, 1865.	
		Mean temp.		Mean temp.		Mean temp.		Mean temp.		Mean temp.		Mean temp.		Mean temp.		Mean temp.		Mean temp.	
		Deg.	In.	Deg.	In.	Deg.	In.	Deg.	In.	Deg.	In.	Deg.	In.	Deg.	In.	Deg.	In.	Deg.	In.
Maine	9	25.7	4.5	20.5	4.6	19.8	3.1	16.5	5.9	21.8	4.4	21.7	3.9	23.2	5.2	24.3	3.36	23.2	5.2
New Hampshire	4	26.8	5.4	17.7	3.3	17.7	2.9	17.7	4.5	21.7	4.0	17.3	3.5	23.4	3.9	25.7	2.19	23.4	3.9
Vermont	4	24.6	2.5	16.9	3.4	19.4	2.4	16.3	2.9	20.9	2.7	21.5	4.2	24.3	4.3	25.5	2.20	24.3	4.3
Massachusetts	12	30.3	5.8	33.0	5.2	29.1	3.8	25.1	5.0	28.4	4.8	26.9	4.4	28.8	4.9	30.9	3.11	28.8	4.9
Rhode Island	1	32.2	6.1	33.0	5.2	32.1	3.5	28.4	3.5	30.5	4.8	28.5	5.7	29.1	5.1	35.6	5.46	28.5	5.7
Connecticut	5	32.0	6.3	26.8	6.8	29.2	3.7	25.6	3.5	30.3	5.2	27.8	5.1	29.1	5.1	31.6	2.95	27.8	5.1
New York	18	29.1	3.5	25.1	3.4	29.2	3.3	23.5	3.9	24.0	3.6	28.7	3.8	34.0	4.6	31.8	3.51	34.0	4.6
New Jersey	4	34.3	5.1	30.9	5.4	34.0	4.2	30.8	4.3	33.1	4.5	31.4	4.4	34.0	4.2	35.6	5.24	31.4	4.4
Pennsylvania	20	30.7	4.9	28.4	2.9	34.8	1.5	29.1	4.0	31.9	3.6	34.7	4.4	32.1	3.4	33.1	3.88	32.1	3.4
Delaware	1	35.4	1.1	34.5	4.7	43.0	6.4	33.4	3.6	40.4	4.9	37.2	4.0	36.4	7.5	36.6	4.96	36.4	7.5
Maryland	1	37.1	3.2	38.8	6.0	38.1	4.0	33.4	3.7	35.4	2.5	35.3	4.4	33.9	4.2	36.6	4.96	33.9	4.2
District of Columbia	1	49.7	6.1	54.0	4.7	51.7	2.4	49.7	6.2	35.8	4.6	35.4	3.7	36.3	2.0	38.3	5.29	36.3	2.0
South Carolina	1	38.1	2.3	46.6	5.3	46.1	3.5	43.2	3.6	50.9	4.9	39.4	3.0	53.8	1.8	38.3	5.29	39.4	3.0
Tennessee	4	36.4	3.3	30.2	4.5	42.4	5.8	43.4	3.8	39.4	5.2	35.4	3.0	40.0	8.0	40.4	8.76	35.4	3.0
Kentucky	20	31.6	3.7	34.7	3.3	37.1	3.5	36.7	2.9	36.6	5.6	36.6	4.3	33.3	5.2	40.4	8.76	33.3	5.2
Ohio	26	32.5	3.5	21.0	3.3	33.1	5.1	25.6	4.6	31.1	4.0	35.0	4.3	33.3	5.2	40.4	8.76	33.3	5.2
Michigan	8	31.7	2.5	25.8	3.3	37.4	2.2	25.6	4.3	31.1	4.0	35.0	4.3	33.3	5.2	40.4	8.76	33.3	5.2
Indiana	14	26.6	3.6	32.0	4.2	34.7	3.0	26.8	2.5	35.6	2.6	31.9	1.1	30.8	3.7	33.6	3.58	30.8	3.7
Illinois	10	19.5	2.2	15.6	4.1	23.9	2.3	14.0	1.6	32.8	3.6	34.9	3.8	27.7	3.2	27.4	1.65	27.7	3.2
Wisconsin	4	9.9	1.3	4.9	2.3	24.0	2.0	14.0	0.9	26.4	2.8	29.9	5.5	22.3	3.2	24.0	1.27	22.3	3.2
Iowa	7	20.2	2.1	15.2	4.5	14.7	1.3	5.9	0.6	11.8	1.2	20.6	2.3	27.6	4.6	18.6	2.1	27.6	4.6
Missouri	3	32.1	3.1	29.8	3.4	23.9	1.9	15.2	0.6	21.2	2.1	25.9	5.5	11.3	0.8	11.1	1.44	11.3	0.8
Nebraska Territory	3	30.2	3.1	40.0	2.6	38.3	8.5	24.5	2.4	32.9	4.2	31.1	5.3	17.5	2.3	19.6	0.91	17.5	2.3
Kansas	3	32.1	3.1	32.1	0.8	20.1	0.9	15.0	0.5	22.6	0.7	21.9	3.4	19.9	1.1	16.0	1.01	19.9	1.1
California	3	37.8	0.0	49.6	2.5	45.6	5.5	45.8	2.9	46.2	2.6	44.2	3.5	44.2	3.5	45.0	0.36	44.2	3.5

NOTES OF THE WEATHER, DECEMBER, 1865.

[From the Smithsonian Institution.]

A general smokiness in the atmosphere prevailed at the beginning of the month, and there were two periods of severe cold—one about the 15th of the month, and the other about a week later.

Gardiner, Maine.—December 8.—River closed.

Lisbon, Maine.—December 7.—The storm, which was quite severe in Portland, Boston, and other places to-day, did not reach here, it being dull and cloudy through the day, and a snow-squall, lasting but a few minutes, about 6 p. m., while in Portland it snowed from 8 a. m. to 6 p. m. 31st, the month of December has been very mild and pleasant, and, although there has been seventeen inches of snow during the month, there is but very little now on the ground, and many bare places in the roads and open fields. The streams, brooks, and wells are lower than common at this season of the year.

West Waterville, Maine.—December 8.—Pond froze over slightly last night below the narrows. 9th, girls and boys skating to-day on the pond where, day before yesterday, it was all open; froze hard last night. 12th, quite a large flock of wild geese passed southerly this afternoon—an unusual occurrence here so late in the season.

Cornish, Maine.—December 25.—Fine sleighing; snow nearly a foot deep. December 27, snow nearly all gone; a warm rain to-day.

Standish, Maine.—December 20.—Snow began last night, and continued till 1.35 p. m. to-day. Squall at 3 p. m., accompanied with a violent northwest wind, lasting till sunset; blew the snow almost all out of the road; first sleighing this morning. 25th, snowed from 10.50 a. m. to 3.15 p. m. yesterday; first good sleighing this morning, but rather poor at night. 27th, sleighing all gone; ice broke up in the lake in the night. 31st, the lake and rivers are very low. Sebago lake is said to be two feet lower than it generally is at this time of the year, and the swamps are very low; snow in the woods is about eight inches deep.

Webster, Maine.—December 3.—The air for the past three days has been very quiet, and there is now almost a perfect calm. The sun has been of a red color during the day, and the moon was red at rising.

Stratford, New Hampshire.—December 10.—All the streams quite low, and some entirely dry; others so little water that they are frozen up. 21st, snow-storm from the east, blowing almost a gale until noon; calm about an hour, and then blew as hard, or harder, from the northwest and west for nine hours. 31st, it is the driest December in this place for thirty years, and how much longer the observer does not know.

Claremont, New Hampshire.—December has been a very moderate, comfortable month. Several light snows have fallen, making tolerable sleighing for light teams. Ice six inches thick in Sugar river on the 18th of December; broke up on the 28th. Streams and ponds are very low, except where the former are filled with snow-water. There is danger of a serious lack of water for manufacturing purposes during the winter.

Shelburne, New Hampshire.—December 5 and 6—No frost in the ground; good ploughing. 7th, ground frozen hard. 8th, Androscoggin river closed. 9th, people cross on the ice. 21st, snow is six inches deep; good sleighing; the first since the 21st of November. 27th, occasional hot breezes in the afternoon from the southwest; thermometer, at 2.45 p. m., 62°.

Lunenburg, Vermont.—There have been only three or four days of sleighing this month, which is very remarkable. There is now (December 31) but a little more than half an inch of snow, which, as the roads are smooth, allows of sleighs being run, and it is very good wheeling also. Springs are low, and the

drought will be oppressively felt by our mills if there are not storms soon. There perhaps never was so little snow or rain during the autumn and winter in this country; there certainly has not been for seventeen years. The weather has been generally pleasant and mild for the season.

Randolph, Vermont.—December 3.—An Indian summer haze settles in the valleys. No snow on the earth. 5th, thermometer 41° at 5 a. m.; at 7, 35° ; at noon, mud in the road in shady places frozen hard; at 2 p. m., 23° ; at 9 p. m., 30° ; farmers ploughing. 9th, good skating on mill-ponds; running streams partially frozen over. 13th, ice broken up in the branch. 15th, good skating on ponds; ground frozen five inches deep. Five inches of snow fell on the 21st and five inches on the 24th. 27th, sleighing all gone by 2 p. m.; people in sleighs on the road found it necessary to leave them and hire wagons to get home. The rapid melting was caused by slight rain last night and high temperature to-day; thermometer at 7 a. m. 42° ; at 2 p. m. 58° . Sleighing again on the 30th.

Rutland, Vermont.—December 9.—Water frozen an inch and a quarter; ground six inches. 23d, ice six inches thick on Otter creek. 28th, the very low meadows on Otter creek covered with water.

Richmond, Mass.—With the exception of a very few days, December has been a remarkably mild month. On the night of the 20th there was a fall of snow. The morning of the 21st was mild. At 10 a. m. a violent wind arose from the northwest, which broke off large trees, continuing to blow with great force until 2 p. m., when it subsided to some extent. The 23d was the coldest and the 27th the warmest days of the month.

New Bedford, Mass.—December 28.—Sharp lightning and some thunder at 5 p. m. 30th, about eight inches of very light snow, from 11 a. m. to 9 p. m., with a very calm state of the atmosphere.

Mendon, Mass.—December 3.—Smoky. 11th, numerous flocks of wild geese going south. 31st, snow one and a half inches deep.

Georgetown, Mass.—Wild geese migrating in large numbers and in extremely large flocks the latter part of the afternoon of the 12th. There was snow sufficient for sleighing from the 8th to the 12th inclusive, and from the morning of the 21st until the afternoon of the 24th. Baldpate pond froze on the night of the 7th sufficiently to bear the weight of a man, but open on the 10th, and mostly free of ice until the 13th, when it froze four inches, and remained closed until the 25th, except at the mouths of brooks; since "honey-combed" and unsafe generally, with many open spots. The ground has not been solidly frozen as yet more than three or four inches, and now (December 31) there is very little frost, and for most of the week the ground was entirely free.

Topsfield, Mass.—December 31.—Streams continue very low.

Williamstown, Mass.—December 31.—Ground frozen three or four inches; no sleighing up to this time.

Newbury, Mass.—Comfortable sleighing from the 10th to the 12th; also from the 21st to the 24th.

Westfield, Mass.—The rains have not raised the streams much. Deep wells are nearly dry, which contained an abundance of water through the summer. The wells that are not deep and that have been dry have no lack of water now.

Newport, R. I.—December 26.—Very dense fog all day and until 8.20 a. m. of the 27th, when it began raining, and continued in light showers till 3 p. m. The 27th was the warmest day of the month, and the temperature unusually high for the season of the year. 28th, thunder and lightning from 4.30 p. m. to 6 p. m.

Pomfret, Conn.—December has been a pleasant month, not much snow or rain; deep wells just beginning to rise a little.

Middletown, Conn.—December 7.—First snow of the season. 8th, sleighs

moving in the streets. 16th, Connecticut river closed with ice. 28th, ice moving from the river; steamer from Hartford passed down.

Newburgh, N. Y.—December 31.—The month has been quite remarkable for the very little snow that fell. There is now only a little in the gutters of the streets, not enough for sleighing, although five inches fell yesterday. On one or two occasions there was sleighing for a day or two, but it soon melted away.

Rochester, N. Y.—December 12.—The canals of this State closed to-day, without having had the least destruction from ice, anywhere, up to this date. 15th, the Erie and Valley canals froze entirely over last night; there having been no ice in either of them previously this season. 16th, fair skating on the canal and hundreds enjoying it. Genesee river frozen over above the dam. 18th, ground frozen one foot in depth. 21st, a violent gale during the night; doing great damage at Buffalo, but not here. 28th, freshet in the Genesee river; ice all gone out. 31st, there were about five days' sleighing during the month.—Dr. Mathews.

Rochester, N. Y.—The mean heat of December was two and a half degrees above the average of twenty-nine years. The amount of water was below the general average. The mean temperature of the year 1865 was one degree and one-tenth above the average for twenty-nine years; there were only two warmer years during that period. The coldest year was 1843; the warmest, 1853. The water fallen in rain, snow, and hail, this year, is 34.08 inches; general average, 32.525 inches.—Professor Dewey.

Fishkill, (on Hudson,) N. Y.—December 21.—At 2 55 a. m. a most violent gust from about east-southeast struck here, lasting ten minutes. The wind continued high for two hours, gradually changing to south and southwest. At 7 it changed to west, and then to west-northwest, with a tremendous gale, lasting until 4 p. m. 31st, ice appearing in the river; navigation entirely free until to-day, which is unusually late.

Gouverneur, N. Y.—December 8.—Oswegatchie river frozen over this morning, in all places where still water existed.

Oswego, N. Y.—There were but two or three days' sleighing, during the month of December.

New York, N. Y.—December 21.—A very high wind prevailed all day, doing much damage in the harbor; blew down an unfinished brick building, corner of Fifth avenue and Sixty-third street. 27th, inside walls of the house dripping with moisture.

Garris ns, N. Y.—December 31.—The month has been marked with much soft weather. Ground has been frozen to the depth of four inches, but the frost is now entirely out of the ground. Navigation of the Hudson is still, and no floating ice, which is rather unusual.

Theresa, N. Y.—December 8.—Ground frozen up. 15th, river frozen over, and boys skating on it.

Depawville, N. Y.—December 7.—Last ploughing; no frost in the ground; roads muddy. 9th, ground frozen hard enough to bear teams; skating on ponds; no snow. 10th, two inches of snow; draw firewood on sleigh. 11th, snow all gone at noon. 12th, frost all out of the ground. 18th, ground bare and frozen very hard. 21st to the 25th, good sleighing. 26th, rain, melting the snow and leaving the ground bare. 30th, an inch of snow in the afternoon.

Nichols, N. Y.—December 16, 17.—The Susquehanna river froze over at Barton, twelve miles below Owego; broke up again within three days. 21st, gale from the northwest all day. 31st, there was no sleighing during the month of any amount. During a greater part of the time the ground was bare, or not more than a quarter to half an inch of snow, and cattle pasturing in the fields. Ploughed a number of days in the first half of the month.

South Hartford, N. Y.—December 31.—The temperature of December was two or three degrees above that of previous years. For the first time within

remembrance, the mercury has not yet touched zero. Fourteen inches of snow fell during the month, against thirty-four last year, but on account of the unusual warmth, the snow is now only two inches deep upon the level. Wagons are universally in use upon the public roads. Winter grain is suffering severely. Lake Champlain closed from Whitehall to Burlington on the 12th of the month. Boats are, however, still running from that point to Plattsburg. Champlain canal was closed on the 14th. Up to that time no insurmountable difficulties had been presented to navigation by ice, but as the ordinary business of the season had been finished, the water was drawn out by order of the canal board.

Moriches, N. Y.—December 11, 12, 13.—Numerous flocks of wild geese were seen going southerly and southwesterly, more numerous than ever previously noticed. 16th, ice on the ponds sufficient for skating. 21st, at 4 or 5 a. m. the wind blew a gale out of the southeast, shifted round south, and then southwest, and finally northwest; increased about noon, blowing up trees, and doing considerable damage. At one time, looking down the river, the water was seen to be lifted up as by a whirlwind, twenty feet or more.

Palermo, N. Y.—December 21.—The most tedious day of the season; wind blowing a gale.

South Trenton, N. Y.—December was a very pleasant month; no sleighing of any consequence. It was the warmest December for some years.

Hector, N. Y.—Dense dry fog on the 2d, 3d, and 4th.

Paterson, N. J.—December 21.—A strong gale, varying between northwest and west, all day.

Burlington, N. J.—December 9.—The first snow of the season.

Greenwich, N. J.—December 3.—A real Indian summer day; atmosphere very hazy and smoky. 14th, first snow of the season. 26th, thermometer rose all day; no wind; a fog almost unparalleled for dampness. 27th, very warm; frost nearly out of the ground; *Viola tricolor* and *Malva rotundifolia* in bloom in an open situation. A butterfly seen, and caterpillars crawling about.

Newark, N. J.—All but four of the preceding twenty-two Decembers had lower mean temperatures; the exceptions being 1847, 1848, 1852, and 1857. There were fogs of unusual density on the 26th and 27th.

Trenton, N. J.—December 21.—Very high northwest wind, from 2 to 6 o'clock this afternoon.

Haddonfield, N. J.—December was variable, as usual, from warm and damp to cool and bracing, with alternations of sunshine, fog, drizzle, rain, hail, and snow. On the 4th fires were uncomfortable, and insects awakened. Christmas was damp and foggy, with some rain. The 27th was mild and spring-like, with showers and warm afternoon; no fires needed.

Dyberry, Pa.—December 21.—Snow from 6 p. m. yesterday to 10 this morning; depth over five inches, and drifted some. Many trees were blown down to-day. 31st, no good sleighing yet.

Byberry, Pa.—December 8.—Ground frozen. 9th, the first snow of the season. 17th, ice three inches thick.

Tioga, Pa.—December 3.—Diffuse lightning and thunder in the southwest at 7 p. m. 21st, very strong wind from the west last night; unroofed some buildings, blew down chimneys, trees, &c. 22d, river closed by ice. 27th, ice broken up in the river, and going down; ice about eight inches thick.

Fallsington, Pa.—December 31.—A very disagreeable month; ponds, rivers, and streams not frozen over, bad travelling, &c.

Grampian Hills, Pa.—December has been rather remarkable for the large proportion of favorable weather for out-door work, there having been no extremes of wet or cold, or deep snow; the ground being most of the time slightly covered with snow, the depth which fell during the month being thirteen inches; but that falling at seven different times, and one snow being prin-

cipally gone before another fell, the ground was at no time more than slightly covered. The roads, throughout the month, have mostly been passably good.

Canonsburg, Pa.—Smoky from the 1st December to the 6th.

Frederick city, Maryland.—December 15.—Monocacy partly frozen; earlier than usual.

Woodlawn, Maryland.—December 15.—Elk river closed with ice two inches thick. 16th, Susquehanna river closed by ice; steamboats stopped.

Atlanta, Georgia.—December 10.—At 8.30 p. m. heavy shower, with lightning and thunder. The thermometer fell from 61° at 7 a. m. on the 20th, to 30° at 7 a. m. on the 21st—thirty-one degrees in twenty-four hours. 27th, at 3 a. m. thunder-storm, lightning in west and southwest.

Natchez, Mississippi.—December 1.—Hazy all day. December 12, 7 a. m., thermometer 64° ; on the 14th, at 7 a. m., 22° —a fall of forty-two degrees in forty-eight hours. Also, from 7 a. m. of the 20th to 7 a. m. of the 21st, the temperature fell from 70° to 28° , or forty-two degrees in the twenty-four hours. No snow during the month.

Helena, Arkansas.—The temperature fell from 68° at 7 a. m. on the 20th, to 18° at 7 a. m. on the 21st—fifty degrees in twenty-four hours.

Clarksville, Tennessee.—Atmosphere densely hazy on the 2d of December, as it had been generally during the preceding month. Spits or sprinkles of snow on the 5th and 12th; ground whitened on the 13th, 16th, and 17th; light rain on the 18th and 19th; on the 20th, before daylight, it rained heavily, with a little lightning and thunder at the north. The rain continued to $3\frac{3}{4}$ p. m.; at $4\frac{1}{4}$ the wind came out violently from northwest, and blew a rough, strong gale until about midnight, when it became more gentle. 25th, flashes of lightning in the distant southeast from about $10\frac{1}{2}$ to 11 p. m. 31st, rain fell on twenty days during the month.

Chilesburg, Kentucky.—December 21.—There was quite a strong wind all last night; about midnight it was 6 or 7. 25th, a flight of immense numbers of wild pigeons in a southwest direction.

Urbana, Ohio.—December 2, 3, 4—Very hazy. December 25th, snow off, having covered the ground five days; ground frozen eight inches.

Cleveland, Ohio.—December 3.—Lightning and thunder and heavy rain between 4 and 5 p. m.; a house struck in the city.

Toledo, Ohio.—December 2.—Smoky and dark. 3d, smoky in the forenoon; very hard rain in the afternoon. 14th, river frozen over for the first time this season. 15th, skating on the canal.

Austinburg, Ohio.—December 2.—Smoky Indian summer weather still continues. 3d, a heavy thunder shower in the evening, with sharp lightning. 21st, a heavy wind through last night and this forenoon from the west.

New Lisbon, Ohio.—December 3.—As smoky as Indian summer. 5th, hard frost, ground frozen. 21st, a terrible storm of wind, rain, and snow. 26th, frost nearly up out of the ground. 29th, froze hard last night.

Kingston, Ohio.—December 20.—First snow this forenoon.

Kelley's Is. and, Ohio.—December 14.—First appearance of anchor ice near the shore of the lake.

Westerville, Ohio.—December 25.—Very much like spring; no snow on the ground; birds singing.

Welshfield, Ohio.—December 3.—Very vivid lightning and heavy thunder from $6\frac{1}{2}$ to $7\frac{1}{2}$ p. m., but no rain or hail. 19th, a very high wind commenced at the going down of the sun, and continued with unabated fury till near sunrise of the 20th, doing much damage by levelling forest and other trees. The force of the wind through most of the night was at least 6 or 7.

Bethel, Ohio.—December 3.—Distant thunder in the west.

Saybrook, Ohio.—December 4.—The warm weather of the 2d, 3d, and today was accompanied with a heavy smoke; also on the afternoon and night of

the 3d very heavy rain. From 5 to 6 p. m. of the 3d the rain was attended with lightning and heavy thunder, which, however, did not cause the smoke to disappear.

Norwalk, Ohio.—December 3.—Thunder and lightning from the northwest.

Lausling, Michigan.—December was a very dry month; wells, cisterns, and springs nearly dry.

Homestead, Michigan.—December 25.—Wild geese flying south this morning; some remained on open water all last winter. 31, the month has been mild for most of the time, and now Traverse bay and all the large rivers are open. Six vessels came to Manistee on the 15th to load with lumber.

Vvay, Indiana.—December 20.—A violent gale began from the northward at 7 p. m., and continued nearly all night. At 7.30 p. m. the thermometer indicated 40°; at 7 a. m. of the 21st 10°. 25th, depth of frost in the ground two and a half inches in soft soil, and in hard clay two inches. 31st, the month has been unusually cloudy; there has not been one entire clear day.

Spiceland, Indiana.—Sky very smoky and dusty; sun exceedingly red in the morning and evening. 20th, at 7 p. m. wind blew up quite fresh from the west. A yellow bright light shone a few minutes about sunset; it appeared uniform over the whole concave above the horizon. 22, at 9 p. m. the barometer the highest that has been observed in four years; it rose one inch and fifteen-hundredths in fifty-one hours.

Richmond, Indiana.—December 1.—Weather pleasant; green leaves still on rose bushes and on the tops of some apple trees; ground very dry for the season. 16th, ice six and a half inches thick on some ponds. 22d, the barometer the highest it has been this year. A little fine snow fell on the 7th, and an inch and a half on the 19th; ground not entirely covered at any time during the month.

Winnebago, Illinois.—December 12.—Ground frozen; ploughing suspended; Rock river closed at Rockford.

Aurora, Illinois.—December 3.—Atmosphere smoky, with but very little wind.

Waverly, Illinois.—December 30.—First flock of wild geese noticed going north.

Riley, Illinois.—December 1 to 4.—Smoky. 11th, ground frozen solid. 15th, ice six inches thick on the creek.

Springfield, Illinois.—Smoky Indian summer weather in the beginning of the month.

Ottawa, Illinois.—December 1.—Smoky throughout the day. 2d, a fine Indian summer day. 3d, rain and smoke so dense that from 2 p. m. until night-fall the darkness was like evening twilight. 5th, ice two and a half inches thick. 13th, Fox river frozen over for the first time this season.

Tiskilwa, Illinois.—December 31.—The thermometer was below zero on four mornings. The greater portion of the month was very fine working weather for all out-door work. There has been but little snow; ground about half covered in open fields, about all covered in the woods.

Sandwich, Illinois.—There was an unusual display of parhelia during the month, as well as solar and lunar haloes. [This was the case at a number of stations in different States.]

Golconda, Illinois.—We have not had a particle of snow here this winter yet (January 14.)

St Louis, Missouri.—December 2 and 3. Atmosphere hazy.—16th, the Mississippi river was gorged with ice yesterday; to-day the gorge broke above the city, and the floating ice destroyed seven or eight steamers at the city landing. 17th, the river is gorged again, and people cross on the ice opposite the city.

Athens, Missouri.—This has been a very dry month; no rain and only seven and a half inches of very dry snow.

Canton, Missouri.—Very smoky on the 1st and 2d; two inches of snow fell on the 6th, and two inches and a quarter on the 20th; sleighing from the 7th to the 10th, and from the 21st to the 24th.

Milwaukee, Wisconsin.—December 8.—Milwaukee river closed with ice this morning.

Delavan, Wisconsin.—The month has been very dry; cisterns all empty.

Manitowoc, Wisconsin.—December 6.—Manitowoc river closed.

Odanah, Wisconsin.—Rivers closed on the first of December.

Weyauwega, Wisconsin.—December 30.—The ground in this vicinity is frozen to the depth of from twelve to fifteen inches. The extremely cold weather about the 15th instant, with little or no snow on the ground, allowed the frost to penetrate to a great depth. There has been no sleighing of any account yet. The fall of two inches and three-quarters on the 18th, produced a kind of slipping for a day or two, as the ground was very hard, but it soon wore out.

Waupacca, Wisconsin.—December 31.—The winter has been remarkably mild thus far; more so than for the last ten years; no sleighing as yet. There have been several light falls of snow, but it melted away very soon. There were no late fall rains. Streams are low, streets dusty, and ground frozen quite hard.

Embarrass, Wisconsin.—December 13.—At thirty minutes past twelve m., felt what is supposed to have been a slight shock of an earthquake, being a rumbling noise with a quivering prolonged shake, very perceptible, lasting nearly a minute, making the windows rattle, &c.; then, after a minute and a half, another quaking, lasting some twenty minutes. 19th, Wolf and Embarrass rivers frozen over. 31st, the weather during the month was very pleasant. No sleighing worth mentioning.

Baraboo, Wisconsin.—The month has been the dryest and has had the most even temperature of any December in the State for thirty years. But little snow; good wheeling. Ground frozen quite hard, not unusually deep. Ice in the lakes and ponds about eight inches thick. The ground in places cracked; cracks ten to seventy-five feet in length, and from one-eighth to three-quarters of an inch in width.

Bowles Creek, Minnesota.—Lakes closed on the 1st of December; navigation on river closed on the 5th.

Afton, Minnesota.—December 2.—Navigation closed on Lake St. Croix. 6th, teams crossing on the ice twelve miles above this place. 13th, first sleighing of the season.

St. Paul, Minnesota.—December 4.—The Mississippi closed here.

New Ulm, Minnesota.—December 6.—River frozen. 8th, teams crossing on the ice. 12th, snow drifted all day, making roads impassable; no teams out, and men only on the most necessary business. The thermometer was below zero on twelve days.

Sibley, Minnesota.—Six inches of snow fell from the 10th to the 12th. On the 11th a wind arose and blew a gale till the night of the 13th. The thermometer fell to 18 degrees below zero. The air was so full of snow that objects could not be seen at ten feet distance; the buildings, houses, barns, sheds, &c., were blocked in, and in some cases filled with snow. Some neighbors had to creep out of the chamber window. The observer lost eleven sheep snowed under. He found two sheep and two chickens six days afterwards in a snow-bank four feet under, which as soon as they were taken out went to eating, and are now, December 31, well and hearty. Some had cattle snowed under, and a good many persons were frost-bitten, some severely. The thermometer was below zero on twelve days in December.

Beaver Bay, Minnesota.—December 31.—No ice yet on this bay or Lake Superior; small boats and canoes are coasting up and down the shore. Whenever the thermometer is below zero a dense vapor rises from Lake Superior. The snow in the woods is about sixteen inches deep.

Dubuque, Iowa.—December 2.—Hazy and dark smoke fog. 3d, very dense smoke fog all day, which with the clouds rendered the use of artificial light necessary long before sunset. 13th, river closed with ice this morning.

Muscatine, Iowa.—December 5.—The last steamboat passed down to-day. 11th, the ferry-boat stopped running to-day. 12th, river full of ice. 13th, river frozen over. 14th, a horse and wagon crossed on the ice.

Iowa Falls, Iowa.—December 3.—Geese going south. 13th, crossing the river on the ice.

Manchester, Iowa.—December 12.—The Maquokata frozen over.

Independence, Iowa.—December 13.—Loaded teams cross the creek on the ice.

Waterloo, Iowa.—December 31.—There has been less wind this fall and winter than has been usual in the same time of the year for the past eight years.

Des Moines, Iowa.—On the 11th, from being very mild and pleasant during the fore part of the day, the wind veered to the northwest, and a driving snow-storm, with a furious wind, continued all night. The wind blew until the next evening. On the morning of the 20th it commenced snowing, and continued until afternoon, about six inches of snow falling, without wind. 31st, the latter part of the month has been exceedingly beautiful; the sky, for the most part, clear, the weather mild, and the streets dry and dusty. The health of this region is almost perfect. On the 21st a man froze to death while driving his team.

Clinton, Iowa.—December 4.—Ice moving. 7th, ferry-boats went into winter harbor; ice jammed at the bridge. 31st, the whole month has been a very fine one for winter, with but few cold days, and but little rain or snow.

Atchison, Kansas.—December 13.—The Missouri river closed at this point last night. 31st, teams commenced crossing the Missouri river at this point on the ice on the 14th, and have been crossing daily ever since.

Fort Riley, Kansas.—December 10.—River closing. 11th, river closed.

Bellevue, Nebraska.—The month has been the coldest December in some years.

Elkhorn City, Nebraska.—The month has been cold and dry; the coldest December, but one, in eight years.

Great Salt Lake City, Utah.—Thirty inches of snow fell during the month, which is more than has fallen in this valley in December for the last nineteen years.

MONTHLY REPORT

OF THE

DEPARTMENT OF AGRICULTURE

FOR

FEBRUARY,

1866.

WASHINGTON:
GOVERNMENT PRINTING OFFICE.
1866.

MONTHLY REPORT.

DEPARTMENT OF AGRICULTURE,

Washington, February, 1866.

Although Congress, as soon as it convened, passed an act forbidding the importation of cattle, and all parts of cattle, as hides, hair, &c., in order to protect the country against the introduction of the cattle plague, yet no legislation, either State or national, has yet been had to meet the emergency arising from its introduction, should it unfortunately be imported. All the active energy of the Secretary of the Treasury, who has the enforcement of the law of Congress in his charge, may not be successful in preventing its introduction. In such an event, who is to deal promptly and efficiently with the evil? The country would be placed in precisely the condition in which Great Britain found itself upon the importation of the disease into its borders. Those interested in the foreign cattle trade asserted that the plague originated in the London dairies, and whilst the controversy on this point was violent, the action of the Privy Council hesitated. The pages of our reports will show the fatal consequences. Ireland was protected first by a law similar to our own, and lately by providing for prompt action, if the plague should be introduced. The necessity of similar legal provisions here was so obvious, that before this recent action of Great Britain was known, the leading article of this report was prepared, that the country might see the many ways by which infectious diseases are transmitted, and seeing them, that they might be guarded against. The danger from cholera, especially in the country, where medical attendance is not readily obtained, led to a consideration of this disease with that of the cattle plague, and in the March report the most available means of prevention and of the cure of the diseases embraced in the heading of the first article will be given.

The wool interest is one of the most important to this country. Whether we consider the value of sheep to the farm itself in clearing it of all undergrowth, and the worth of its manure, or its value as yielding the most wholesome of meats, or its necessity in furnishing the most useful and elegant clothing material, we must ever regard it as worthy of every encouragement. No greater skill and perseverance have ever been exhibited in the improvement of any farm stock than have been shown by the American wool-growers; but up to the commencement of the rebellion this great interest always languished. The cause of this was not so obvious. The history of the past protective tariffs shows that under none of them was wool-growing profitably established. That it encountered much opposition by the introduction of the cheaper foreign wools

is obvious, and by a still greater importation of foreign woollen goods. Still it is clear that there were other antagonistical agents, and the statistics of cotton production and its prices show that the great production of cotton was bearing down all other clothing material. To show this important fact is the purpose of an article in this report. No one can lament this antagonism more than myself; yet it is a *fact*, and one we should not blindly disregard.

The statistical tables of this report are interesting. They embrace the exhibit that this Department makes every year, of the amount, the acreage, the prices, and the value of the principal crops. Whilst the bushels of grain raised in 1865 have exceeded those of 1864 by 215,541,988, their value is \$359,301,854 less. The decrease in the value of the hay crop is \$91,894,457, and that of the tobacco crop \$5,989,614.

In a previous number of these reports I have mentioned the fact that the government of France designs to hold a universal exhibition of the industry of the nations, at Paris, in 1867. Everywhere an unusual interest is had in this Exposition. There is little doubt but that it will be the greatest yet held. This country is taking an interest in it not before manifested in any exhibition.

I have sent to a number of State and county agricultural societies copies of a publication prepared by the Department of State, intended to show what is doing to have our country properly represented at this exhibition. The publication comprises—

1. The message of the President of the United States to Congress on the subject of this exhibition, with accompanying documents.
2. Proceedings of the Chamber of Commerce of the State of New York on the same subject.
3. An address to the agriculturists, mechanics, &c., of the United States, explaining the objects and aims of the exhibition, by J. C. Derby, United States agent.
4. Instructions to applicants who have articles of any kind whatsoever which they may desire to exhibit.
5. Duplicate forms of application, to be filled up and signed by applicants.

To this publication I desire the careful attention of those receiving them, and hope they will take timely action in regard to having its objects understood by the members of their respective associations, and by all others who might become exhibitors.

There is one matter not mentioned in these documents, to which I particularly call the attention of agricultural societies, more especially the State Boards of agriculture. It is this:

N. M. Beckwith, United States commissioner at Paris, is desirous of presenting plans of the best farms in our country, such as is generally known as model farms. The State societies have, from year to year, offered premiums for such, and therefore can readily obtain plans of the best of them. It is desired that the plans should embrace every variety of farms, as grain-producing, grazing, dairy, garden or vegetable, as well as those of mixed husbandry. They should

comprise prairie, upland, bottom, and rolling lands, with the woodlands attached to them, especially such as have been reduced to woodland pastures.

As soon as it can properly be done, I desire these plans to be forwarded to this Department, accompanied with clear and full descriptions and explanations of the different parts of the farm, the purposes for which used, the general management, especially as to rotation of crops, and the mode of cultivation, if peculiar and successful. As soon as I may receive them I will have them neatly and carefully copied and forwarded to the United States commissioner at Paris.

In preparing these plans, the scale upon which they are drawn should be stated; the places occupied by the houses and other farm buildings should be designated, and where these buildings are more than ordinarily good, and found to be well adapted for their special purposes, it would be useful and interesting to give their ground and elevation plans.

Our country has many such farms, and it ought to be, as doubtless it will be, the pride of individuals, of county societies, but especially of State Boards of agriculture, to have these properly exhibited in such an European Exposition as that in Paris will certainly be.

ISAAC NEWTON,
Commissioner.

THE CHOLERA, THE CATTLE PLAGUE, THE HOG CHOLERA, THE TRICHIINIS, THE ANIMAL SMALL-POX.

The time is now near at hand when emigration from Europe will, in all probability, bring the cholera into the United States. It has been prevailing in some of the West India islands during the winter, and the warmer weather will have a tendency to increase it there, and through visitors to the north it may reach our country.* When we reflect upon the great number of lives lost during its previous visits, especially in the farming districts, from simple ignorance of the character of the disease, inducing both a self-treatment the reverse of what it should have been, and a disregard of premonitory symptoms, when only the disease might have been controlled, a proper regard for the well-being of the class which this department represents, demands that their attention should be timely drawn to the character of this fatal epidemic, so that, if it should come, they may be prepared. Such preparation is especially necessary with the farmer, for he cannot have that immediate medical attendance demanded by the rapid progress of the disease.

With the cholera we group the other diseases named in the heading of this article, for although most of them spare the farmer himself, yet they are fatal to his stock, and belong to the same order of diseases, namely, those that are propagated by animal poisons. Our government, it is true, has taken steps to protect the country from one of them, but although the officer whose duty it is to enforce the protecting laws of Congress exhibits most commendable watchfulness and promptness in action, yet in such a country as ours, bordering so many miles upon another, which has not yet adopted the measures of protection it should have, the people must aid the officers of government. We are not to permit, as was allowed in Great Britain, an interested class of cattle dealers to mislead the public, so that they might continue a foreign and domestic trade in cattle that spread the plague into almost every neighborhood. In a British journal of agriculture we have reported the ways of its introduction into many English and Scotch counties, and they are all traceable to the selling and driving cattle to and from the public markets. The hog cholera has, in this way, been scattered, time and again, over the western States, and should the cattle plague ever obtain an entrance into the country, we know that the power of the government will prove useless if not seconded by the most energetic co-operation of the people.

To urge them to continued watchfulness is our duty. And this can be done in one way only, by impressing on their minds the fatality which will follow remissness on their part.

We therefore give such information of these diseases as will serve to draw public attention to them, and such protection as circumstances may render necessary.

* Since this article was put in type, we notice that New York has created a board of health for New York city, and the military authority has ordered a quarantine of twenty-five days on all vessels coming to New Orleans from these islands.

Although all the diseases named, except trichinis, originate from animal poisons, yet they do not affect the same parts of the body and in a similar way. Thus cholera is a disease of the stomach and bowels in the beginning, whilst the cattle plague and small-pox originate in the blood. The cause of the last disease must be swallowed; of the first, inhaled into the lungs. But what is this cause? Science has long sought to answer this question, but as yet most vaguely, and, therefore, not satisfactorily. Still, as in the discovery of the sources of the Nile, some progress is making, and although certainty has not been reached, the darkness is being dispelled.

A growing opinion is that the cause of these diseases is an atomic particle endued with life-power, that is, to convert healthy parts of the body into its own elements, or into like atoms, from which the disease originated. In cholera, and perhaps in hog cholera, this atomic particle cannot reproduce itself unless it effects a lodgement in the stomach, but when there it rapidly converts the watery particles into numberless atoms like itself, and these, as in the fermentation of yeast, are endued with a similar power of self-propagation. They draw to themselves the watery particle of the blood in the veins, and the blood robbed of this water becomes too thick to circulate. Coldness ensues, cramps follow, until life is destroyed.

The atomic particle of disease in the cattle plague and small-pox is inhaled into the lungs, where it mixes with the blood and converts it into its own particles. And this it does for some days, called the *incubation* of the disease, unnoticed, for it is unmarked by any outward indications of its presence. The animal gives no evidence that it is not in good health. But disease is antagonistical to life, and when these diseased atoms become so numerous as to interfere with the proper action of life, then the struggle commences between these opposing forces. One must overcome the other. Nature endeavors to throw from the blood these atoms of disease; in the cattle plague or typhus fever they are forced upon the internal surfaces of the stomach and bowels or lungs; in the small-pox, upon the external surfaces of the skin. In this effort to throw off the disease nature often sinks from exhaustion.

HOW THE POISON OF DISEASE MAY BE TRANSMITTED FROM THE SICK TO THE WELL.

And here the inquiry presents itself, *In what way do these atoms of disease obtain their lodgment in those portions of the body where they are capable of self-multiplication?* The answer tends to lead us to a useless notice of those terms about which medical men have written and disputed so much—namely, contagion and infection. These controversies but serve to show that even such diseases as those we are considering are neither contagious nor infectious. We choose rather to follow what the common sense of every person tells him is true, that these and like diseases, indeed nearly all diseases, are communicable. Whether this communicability is to be called contagion or infection, or by any other name, is to us immaterial. We speak of this communicability when we say of the cholera that it is an epidemic; of the cattle plague, that it is an epizootic; that

both are so readily multiplied that every care to prevent their increase is the first duty of man to himself and his fellow-men; to the cattle over which he has dominion, and a no less duty of government to its subjects. It is more important to determine the means by which the atom of disease is brought into the body, than to dispute about the names by which they should be called. For, having a certain knowledge of these agencies, we can know how best to destroy them. In speaking of them we will separate the diseases, and notice—

1. *Cholera*.—Whatever may be the character of the germ of these diseases, whether a poison simply, or in the nature of an *ovum* or egg, from which, cell-like, it rapidly multiplies itself, we know from facts that there are agencies by which this germ is conveyed into the healthy body. The following statements in regard to the propagation of cholera we take from the London Social Science Review, edited by Benjamin W. Richardson, M. D. :

“There seem to be three distinct modes by which the cholera poison enters the human body. In the first place, the poisonous cells may be disseminated on articles of clothing in the dried form, and may thus be conveyed long distances without losing their peculiar properties. Carried in this manner, some person who undertakes the cleansing of these articles becomes exposed to the poison as it emanates in the dried and granular form from the infected material. The poison is thus lodged in the nostrils or mouth, mixes with the secretions there, is swallowed, enters the alimentary canal, finds there the situation for rapid growth, robs the blood of its watery parts for its own support, and gives rise to the disease.”

“A second mode by which the poison travels is by direct conveyance of the poison thrown off by the sick to the bodies of the healthy, from uncleanness on the part of attendants, the poison adhering to the vessels used by the patient, or to the hands of the attendants, and being thus conveyed. We ourselves knew an instance where a wife was clearly poisoned with cholera by drinking from a basin into which her husband, who was suffering from cholera, had vomited, the basin having only been rinsed with cold water. The symptoms in this case were as clearly traceable to the swallowing of the poison as though it had been arsenic or antimony.”

“We add to the above remarks the fact that an assistant in the cholera hospital at Berlin produced cholera in himself by tasting the excreta of a cholera patient, and that the symptoms were induced within six hours.”

“In the course of great epidemics, these two methods of taking cholera are by no means uncommon; and, indeed, the propagation of cholera from country to country as frequently takes place by means of infected clothing as by direct personal intercourse; at the same time the progress of the disease would be very slow if it depended on these methods alone. The great means by which cholera poison is propagated to communities at large is by the water supplied for the domestic wants of such communities. A cholera patient is imported into a country; he is yielding the poison, and eliminating it freely. From him it is conveyed to the sewer, and through the sewer to the well, or it may be direct into the river that supplied every household with water. Thus the poison is disseminated at large, each new case adding to the mischief, and at last a universal and decimating plague prevails until it can find no more victims on which to disport itself. For the discovery of the fact of the communication of cholera by water, the world is indebted to one of the most illustrious men of our time—the late Dr. John Snow.”

“The proof of the communication by the means stated was afforded by Dr. Snow in various ways. Thus, in 1854, he showed that of 286 fatal attacks of

cholera occurring in the south districts of the metropolis, where one water company, the Southwark and Vauxhall, supplied water charged with London fecal impurities, and another company, the Lambeth, supplied a pure water, the proportion of fatal cases to each 10,000 houses supplied by these waters was, to the Southwark and Vauxhall Company's water 71; to the Lambeth 5. But there was another fact of singular interest brought out by Dr. Snow during this epidemic. In the latter part of August, 1854, a terrific outbreak of cholera commenced in London in and about the neighborhood of Broad street, Golden square. Within two hundred and fifty yards of the spot where Cambridge street joins Broad street, there were upwards of 500 fatal attacks of cholera in ten days. Dr. Snow at once determined that a pump in Broad street was the source and centre of the calamity. He found that a case of cholera had originally been brought to an inn close by the pump; he came to the conclusion that the sewer from the inn had a connexion with the well, and that the water of the well was thus directly poisoned. He recommended the vestry of the parish to remove the handle of the pump, whereupon the pestilence ceased to spread, and afterwards, when all was over, a committee of inquiry found that there was a direct connexion between the sewer and the well, and that the water was impregnated with the sewage from that particular public house, and with that of several adjoining houses. Another important fact was elicited in connexion with the Broad street epidemic, which, if we were superstitious, we should say was almost intended to prove the origin of the disorder. An old lady who had once resided in Broad street had retired to Hampstead. For some years, however, she had been in the habit of sending daily to the Broad street pump for a keg of water for drinking. She had never suffered before; she drank of this water after it had become impregnated with the cholera excretæ, contracted cholera and died. Her niece drank of the same, and also took cholera, but recovered. These were the only cases that occurred in that district."

The three modes of communicating the cholera here referred to are by clothing, where the infected matter is dried and carried by the air into the nostrils or mouth; by uncleanness, resulting in a similar transmission; and by water used for drinking. They serve one common purpose, to carry the germ of the disease from the sick to the well. We may therefore regard all possible modes of such conveyance as alike fatal, whether the excretæ or passages from the sick, whether by vomiting or purging, are exposed to drying winds and blown about so as to be inhaled, or thrown on the surfaces of the ground, where they may be washed into wells, or cast into privies, or filter through the sewerage of the city into wells or springs, or carried into rivers; all are agencies of communicating the poison with which these excretæ abound. It should be, therefore, the first aim of sanitary regulations to secure these excretæ and dispose of them where neither the air nor the water can carry them to those in health. This is done by digging trenches in a remote or safe place, and where the soil, by burning, or by its nature as a clay, may hold these poisonous elements. If not so secured there is no guarantee of safety, because no one can determine that privies or sewers have no communication with wells. Horribly disgusting as is the thought that such communication can at any time exist, yet the facts stated by Mr. Richardson admonish us that it is probable. Look at the sewerage of Washington. Its narrow channels choaked, its larger ones hastily constructed, and these having wells near them.

2. *Cattle plague*.—A consideration of the agencies by which the poison of

this disease is disseminated will make us more sensible of the necessity for the exercise of the greatest care than from what may be stated of any disease affecting the human family, for the reason that it has been more closely studied and written of more freely. Physicians, fearing that in epidemics the claims of humanity may be disregarded if the agencies in the transmission of disease were fully stated, have been disposed rather to deny these agencies than to caution against them.

In a previous number of these reports we noticed the fact that in the western German nations a military cordon is drawn around the place where the rinderpest may break out, and that no communication is allowed outside of it. But on one occasion an apprentice carpenter boy slipped out of one of these cordons and went to a neighboring farm owned by his father, and whilst there repaired a cow stall. The cow contracted the disease, having inhaled the atoms of disease which the clothes of the boy had become infected with whilst in the cordon. These had been in contact with parts of the stall and left upon them the atoms, which were inhaled by the cow. But the following extracts from the regulations of the English privy council, drawn up by a physician, more clearly indicate the numerous things by which this disease may be propagated. After stating that the infection is communicated by all parts of the diseased animal, as the skin, hair, horns, and hoofs, as well as by the flesh, fat, entrails, and blood, but especially by the intestinal discharges, which must be regarded as the principal agents in communicating it to other cattle, the following enumeration of infected things and places is given :

“ 5. It follows from the above that all articles which have been in contact with a diseased animal, or any of its discharges, particularly its fæces, are capable of carrying the infection for an indefinite time, and must be looked upon as being actually infectious to other healthy animals. Such are racks of wood or iron ; cribs or mangers, of wood, iron, or stone ; articles used for fastening animals ; leather collars and straps, ropes and chains ; all harness of any animals used for drawing, and all carts, wagons, and carriages which they have actually been drawing ; the stalls or sheds in which animals have been standing ; the whole lengths of the gutters and drains through which their urine has been flowing ; the entire surface over which their manure has been drawn, and all implements with which the removal has been effected ; the entire dung-heap upon which infected manure has been put, and the fluid contents of the manure-pit, or of the special receptacle for the urine ; yards or sheds in which cattle have been kept to tread down long straw, and the whole of such straw and manure, as also the ground beneath them ; paths and roads upon which diseased animals have walked or been carried ; fields and meadows upon which they have been grazing ; all carriages, trucks, and railway trucks in which diseased cattle have been conveyed, and all the platforms, bridges, and boards upon which they have been moved thereto ; as also all apparatus which has been used to pen, tie, lift, haul, lower, and fix them ; the clothes, and particularly shoes and boots, and iron-pointed sticks of drivers and their dogs ; the apparel of all cattle-herds or attendants, particularly their shoes and boots ; the shoes and boots of all persons visiting places where diseased cattle are or have been standing, and, in general, the clothes of all persons visiting infected places, ships, and all parts of platforms, stages, stairs, and bridges, hoists and cranes used for embarking and landing the animals ; markets, and all sheds and pens and implements used in contact with cattle ; slaughter-houses, and all persons and implements in them which have

been employed upon sick cattle, as also sundry parts or organs which come from sick animals killed in slaughter-houses; knacker's yards, trucks or carts, horses, men, and implements which have been employed in the disposal of sick or dead animals; wells and ponds from which diseased cattle have been drinking, or into which any portion of their excretæ has had any opportunity of flowing, directly or indirectly; all fodder, grass, hay, straw, clover, &c., and particularly remnants of fodder upon which diseased cattle have been feeding; and, in general, all persons, animals, places, buildings, and movable things which have been in contact with matters proceeding from diseased cattle, or with such diseased cattle themselves."

In some of the counties of Scotland, the moving of cattle from common markets is prohibited. But in healthy counties the disease has suddenly broken out, and a close examination of the roads has shown cattle tracks, pointing to the fact that during night-time, in violation of this law, cattle had been driven from infected market places. When, therefore, the neighborhood cattle were taken over the road for special purposes, they contracted the disease from its atoms, left by the feet, droppings, or urine of the infected animals.

The following remarks, from an able article on the cattle plague, written by Dr. William Budd, of England, and published in the *London Social Science Review*, will show how readily not only the rinderpest, but cholera and other diseases, may be spread through negligence in properly securing the excrement of diseased animals and persons:

"In a country, taking the line of the watershed, it would seem to follow that these discharges must often, like those of cholera and of human typhoid, contaminate the drinking-water, which, when in form of small running streams, may, in its turn, become the means of carrying the disease to distant spots. The attention of continental observers does not seem to have been called to this mode of transmission, but physicians here who are acquainted with the evidence collected upon it in regard to the two human diseases just named will easily see how it may often intervene in causing many unexplained outbreaks.

"In the town dairy, on the other hand, these discharges are distributed by the sewer. In certain districts of London, for many weeks past, the sewers have been constantly fed by this infectious stuff. From what we know of this mode of dissemination in the typhoid fever of our own species, it is more than probable that effluvia from this source, finding their way through untrapped drains, may carry the cattle plague to cows that have had no other contact with it. Practically, the greater part of the poison cast off by the infected animal takes the form of manure. This being so, all thoughtful men must be anxious to know what has become of all the cattle-plague manure created in London and its suburbs within the last two months. If it be true, as many fear, that much of it has already been taken into the country to be spread over the land, the results may be disastrous indeed. I have myself reason to know that no longer ago than Saturday last (August 5) a load of manure, which had undergone no disinfecting process, was sent from an infected dairy to one of the canals which radiate from London to be despatched into the country. It would be interesting to know what has become of that precious cargo. Did it, perchance, meet any droves of cattle in its way through London? Is it at this moment travelling in some slowly moving barge, with its trail of infection behind it, to the meadows of Berkshire or Bucks? To what manure yard next were the horse and cart sent which first bore it away?"

In this neglect to enforce proper sanitary measures, we will see presently how wide-spread the cattle plague has become in Great Britain, and with what

severity its government is condemned for its inefficient measures, and more lamely enforced than inefficient. But the foregoing extracts exhibit the ways in which cholera, typhoid fevers, and the cattle plague are propagated. The human diseases may not be as virulent as the last one, but their modes of dissemination are the same, and therefore demand like means against their spreading.

It is our purpose to consider these hereafter. Our best protection, our point of strongest defence, is against their introduction, and therefore it is that we here notice the necessity of protection by government.

THE DUTY OF THE GOVERNMENT.

Whoever will pause but for a moment's reflection will see that against the introduction of diseases so fatal as cholera and the cattle plague, the government owes a duty of the most weighty character to every citizen. If energetic measures at New York have prevented the spread of the cholera when brought there last fall, how studiously should have been the minds of our national and State legislators and executive officers turned to perfecting these measures and extending them, that the country might be more effectually guarded when the warm weather of spring and the increased emigration will add so largely to the danger of the introduction of the disease. No trade in cattle or their products should have been permitted with the British North American provinces, but upon the condition that the most stringent regulations should have been adopted and enforced against the introduction of the cattle plague in those provinces. How little has yet been done to protect the people against either disease? We seem to be content with the half-way measures of Great Britain in its treatment of the cattle plague. Its non-effective action has spread this disease into nearly every part of England and Scotland, and not unjustly does that able paper, the *Mark Lane Express*, thus speak to it:

"If the English government is not responsible for, at any rate, all the ravages of the plague during the last few weeks, we will bid farewell to all law and logic. Does the government pretend to throw upon anybody else's shoulders the duty of combating the disease? If the government owns that such was its duty, what excuse can it offer for not having performed this, and spared us the greatest national calamity of our generation? Did it not know what to do? Why, the French veterinarians came over long ago, and so reported upon the nature and course of the disease in our country that the French government acted at once, and successfully held the plague out of its empire. Our government 'didn't know,' and yet the French government had already examined into the whole affair as it existed in England, and thereupon did all that was required for the safety of French cattle as long since as September. Does our government suppose that, though it must have known what to do, it will be excused because the public generally would not have approved the only efficient measures? If it is not one duty of rulers to take the initiative to ascertain what steps are requisite in great and sudden emergencies, and then to inform its people and thus create an enlightened opinion on the matter, it is about time to give up theories of government, to expect nothing wise, nothing virtuous, nothing progressive from statesmen, but merely to look for this result, that they shall move when they are pushed, and stop when the popular pressure relaxes.

"The most wonderful thing just now is to see stock owners losing their

cattle, and still in a resigned attitude of mind—rosy only with good-natured sadness, not with boiling temper. But it is enough to enrage any class, except that of tenant farmers, to take one glance at other countries saved by administrative vigor, and then to look at our own condition. Here are a few of the figures relative to Great Britain:

Week ending—	No. of attacks.	Week ending—	No. of attacks.
October 14.....	1, 054	December 2.....	3, 828
October 21.....	1, 729	December 9.....	5, 356
October 28.....	1, 873	December 16.....	6, 054
November 4.....	1, 765	December 23.....	6, 256
November 11.....	2, 580	December 30.....	7, 693
November 18.....	2, 669	January 6.....	9, 120
November 25.....	3, 610	January 13.....	9, 243

“The weekly increase latterly has been at the rate of about one-fifth. Supposing that this rate of progress continues, what will be the number of attacks in half a year’s time? It is the old calculation over again of a farthing for the first nail of a horse’s shoe, two farthings for the second nail, four farthings for the third, eight farthings for the fourth, and so on till you are surprised at the amount for the last nail of the fourth shoe. Adding one-fifth every week, we get some 40,000 attacks for the first week in March, 97,000 for the first week in April, 202,000 for the first week in May, 500,000 for the first week in June, over a million for the first week in July, by which time the total of cases would amount to no less than six millions. Half the head of cattle in the kingdom would, at this rate, be attacked by the first week in June. We do not say that this disease will spread regularly with this rapidity; we only say that it is actually extending with this speed now, and has been during the last few weeks. If anybody chooses to take it for granted that the totals will presently be found to fall off, and the disease gradually grow weaker in its murderous course, we are equally at liberty to expect that the mortality will increase.”

These complaints are stated not less justly than indignantly. An Englishman must keenly feel the inefficient care exercised by his government, when he can make such a contrast between the action of his own free government and that of the despotism of the French government. He must sorely feel its negligence when he can say, “it is about time to give up theories of government; to expect nothing wise, nothing virtuous, nothing progressive from statesmen.”

May this country escape the diseases so greatly threatening it, that our own people may have no occasion for like reflections! As to measures for their protection against the introduction of the cholera and rinderpest, our legislative action is almost nothing of itself. The Emperor of France promptly sent a commission into England to examine the cattle plague, embodying a scientific and practical knowledge capable of determining the nature of the disease. Their report presented it in the same light as given in the September number of the Monthly Report—as an incurable and most infectious disease, and the best measure that could be adopted was the most prompt and vigorous to prevent its introduction into France. The Emperor at once acted in conformity with the recommendations of the commission. The authorities of Great Britain listened to the statements and perversions of facts by those interested in the foreign cattle trade. These maintained that the cattle plague was not imported, but originated in the foul dairies of London. And so, halting between two opinions, and issuing

orders, but not enforcing them, the government of Great Britain allowed the plague to be disseminated until, as is seen in the above remarks of the Mark Lane Express, it is sweeping through England and Scotland. Ireland is yet free from it.

In the enforcement of our law against the importation of cattle and their parts the Secretary of the Treasury is prompt and energetic, but the danger lies in the introduction of the disease into the British provinces. Once there, it could hardly be kept out of the States, and hence some action should be had immediately, through which these provinces and our government could mutually protect each other against the introduction of the plague, and, indeed, against all fatal infectious diseases, whether affecting the human family or the farm stock.

But there is one thing in which all our governments, national and State, have been wholly remiss in their duty to the people. Neither of them have yet legislated with reference to suppressing these diseases, if introduced into our country. Who is authorized to place a cordon around the first cases that may appear, or, by some other effectual means, take hold of all the numerous things by which the contagion may be spread, and by their destruction or purification, protect other persons or animals from the disease? It was in this protection that the government of Great Britain was false to its duty. As we have seen, it permitted all animals to be driven to and from the markets; the infected manure to be carried along the highways and into fields; individuals to visit the sick cattle, and, in their clothing and upon their shoes, to spread the disease into healthy localities. Contrast this inaction with the system of cordons established by the German governments, and is it any wonder that an Englishman writes, "it is about time to give up theories of government." There are circumstances, imperilling the common safety, when anything else than what seems an arbitrary exercise of power is disloyalty in truth. Such terrible pestilences as the cholera and the cattle plague demand the most vigorous action, and the most unqualified giving up of individual freedom to think and to do as it chooses. To authorize such action is now the imperative duty both of the general and the State governments.

In our examination of the diseases we have placed in the heading of this article, we have searched for preventives and remedies. These we shall give in the next monthly report. What has been here written will serve to show the nature of the pestilences threatening the country, and to remind both Congress and the State legislatures how little either have yet done to secure the people in their lives and their property against these diseases.

Since this article was prepared we notice, from the London Agricultural Gazette, that Great Britain has done for Ireland just what we have stated should be done for this country by State and national legislation. Heretofore the privy council simply ordered the non-importation of cattle into Ireland, but

made no provision for action, in the event of the introduction of the cattle plague. That paper, of February 3, says :

“The order in council with reference to the cattle plague in Ireland, which was issued last Saturday, requires that, on the occurrence of the cattle plague on any farm, the lord lieutenant shall be informed by telegraph, and shall thereupon immediately despatch an inspector with the ordnance map in his hand, upon which he shall there and then draw a line of isolation around the infected farm or district, which line is to be *kept* by the county constabulary, and no domestic animal is to be allowed to cross it until twenty-eight days after the disappearance of the disease. Why has not a measure of this kind long since been adopted here ?”

We here see that, after all the experience of Great Britain, the only hope of staying the disease is by a resort to the German mode of establishing a “cordon.” In September last we gave our preference to this way of meeting the disease, believing, as we then did, and still do, that, for all purposes, the disease should be regarded as most fatal, and as incurable as fatal.

Accounts are going the rounds of the press that vaccination is a preventive; that is, the cow-pox, from which we originally obtained our vaccine matter, is a safeguard against the rinderpest. The following action in Aberdeenshire, and the opinion of Dr. Murchison, show the little reliance to be placed in this vaccination. The extract we take from the paper just referred to :

“The 300 deaths per diem from the cattle plague, in Cheshire, have doubled in a fortnight. Upwards of 5,000 fresh cases and 4,270 deaths took place last week. The disease has reappeared in Aberdeenshire; and the whole stock of the farm was immediately purchased for the county association, killed, and buried five feet deep. Although Mr. Tollemache still maintains his faith in vaccination, notwithstanding that some at least of his stock have sickened, yet its powers as a preventive have already been disproved. One of the recent cases in the north is indeed stated to have been just recovering from cow-pox of the natural kind when she was attacked by rinderpest.”

And Dr. Murchison writes as follows to the Times :

“The points of resemblance between cattle plague and small-pox are so striking that certain observers were led to hope that vaccination might protect cattle from the prevailing disease. The experiment, I believe, has now been fairly and fully tried; and, although the first accounts appeared favorable, there is sufficient evidence that vaccination confers no permanent protection from the plague. It is well that this fact should be generally known by publication in the Times. Rigid isolation, and the suspension of all movement of living cattle, must still be the preventive measures on which we mainly rely.”

The legislation now demanded of Congress and the States is to provide for the most complete and rigid isolation wherever the disease may appear; to authorize county associations to purchase the cattle of an infected farm, and destroy and bury them; and to enforce the observance of any preventive that future trial may show is effectual.

THE WOOL-GROWING INTEREST.

Last summer we commenced an examination of the statistics connected with the wool-growing interest of our country. We obtained from official publications the amount of wool, of different values, imported under the various tariffs from 1824 to 1861, showing the amount coming in free of duty, and the amount under a specific duty, and that under an ad valorem duty, the amount and value of different woollen goods imported under the same tariff acts, and the prices of wool during the same years.

But these statistics serve to mislead unless considered in connexion with others, namely, the amount of the circulating medium, the general prosperity of the country, and the particular form of our industry. For instance, the swelling of the currency under the pet bank system, stimulated consumption into an extravagant folly, during which imports of woollens were largely increased, and must have been so under the same rates of duty even if almost prohibitory, when the currency was not thus expanded. Again, in the prosecution of the works of internal improvement by the several States from 1835 to 1840 large foreign debts were contracted by the States, which appeared here in the form of an increased importation of merchandise. And again, whilst the country was slowly recovering from the exhaustion occasioned by the state of the currency and its excessive imports just referred to, that is, from 1842 to 1846, we have, following the latter year, in which a non-protective tariff was adopted, a high state of prosperity, occasioned not by such change, but by the enormous exports in consequence of the potato famine in Ireland and short European crops. This prosperity led to increased consumption of wools and woollen goods, creating such a demand for them as to enhance the price of our domestic wools.

A reference to the statistical tables we have compiled would, apart from the matters we have named, present this general fact, that under the protective duties on wool and woollens, the prices of wools decreased, and under the non-protective tariffs the prices advanced. In fact, there are no kinds of knowledge more dangerous than statistical tables, for being a very condensed statement of facts, a *multum in parvo*, we must be certain that they contain not only the truth, but the *whole* truth, and *nothing but* the truth. To determine this requires a familiar acquaintance, not only with the statistics, but *with all the agencies connected with the results they represent*. It was this fact that forced the Department of Agriculture into the publication of these monthly reports in connexion with the operations of its statistical division. The tables must be explained either to be rightly understood or properly appreciated.

To show the operation of the increase of currency and of general prosperity upon protective laws, as affecting the prices of wool, we give the following from the tables we have compiled :

Imports and exports of foreign wool under the tariff act of 1842.

[This act placed a duty of five per cent. ad valorem on wool costing not exceeding seven cents, and a specific duty of three cents per pound and thirty per cent. ad valorem on wool costing more than seven cents. It went into effect August 30, 1843.]

Year.	IMPORTS.		EXPORTS.	
	Weight in pounds.	Value.	Weight in pounds.	Value.
1842-'43, (8 months).....	3, 332, 654	\$190, 352	184, 446	\$54, 695
1843-'44	13, 808, 645	754, 441	199, 763	97, 019
1844-'45	23, 382, 097	1, 553, 789	450, 943	136, 005
1845-'46	16, 427, 952	1, 107, 305	130, 295	26, 921
1846, (5 months)	4, 296, 513	300, 657	45, 363	4, 692
Total	61, 247, 861	.....	.....	.....
Import per month.....	1, 249, 956	.....	.....	.....

Imports of foreign wool under the tariff act of 1846.

[By this act an ad valorem duty of thirty per cent. was placed on all wool. It went in force December 1, 1846.]

Year.	Weight in pounds.	Value.
1846-'47, (7 months).....	4, 118, 129	\$250, 473
1847-'48	11, 381, 429	857, 034
1848-'49	17, 869, 022	1, 177, 347
1849-'50 .....	.....	.....
1850-'51	20, 309, 693	1, 346, 847
1851-'52	18, 341, 298	1, 930, 711
1852-'53	21, 595, 079	2, 669, 718
1853-'54	20, 200, 110	2, 822, 185
1854-'55	18, 534, 415	2, 072, 139
1855-'56	14, 737, 393	1, 665, 064
1856-'57	16, 502, 060	2, 125, 744
Total	163, 589, 628	.....
Import per month.....	1, 422, 518	.....

These tables exhibit under the tariff of 1842 an average importation per month of 1,249,956 pounds, and under the tariff of 1846 an average importation per month of 1,422,518 pounds. By the table of prices given in Mr. Randall's work on sheep husbandry, published in 1862, we have an average price of wool under the first of these tariffs as follows: fine $39\frac{1}{16}$, medium 34, and coarse $28\frac{1}{2}$ cents per pound. Under the second tariff as follows: fine $47\frac{1}{2}$, medium $41\frac{1}{3}$, and coarse $35\frac{1}{7}$ —a difference in favor of the latter of about seven cents per pound.

The inference to be drawn from these facts is, that either wool needs a higher protective tariff than that of 1842, or else that it encounters a home competition which operates against it with stronger force than the importation of foreign wools.

The tariff act of 1842 was passed when the currency of the country was very low, as will be seen from the following table giving the circulation in January of each year and prices of wool in same month.

Years.	Amount of circulation in January.	PRICES OF WOOL IN SAME MONTH.		
		Fine.	Medium.	Coarse.
1837.....	\$149,185,890	-----	-----	-----
1838.....	116,000,000	-----	-----	-----
1839.....	135,000,000	-----	-----	-----
1840.....	107,000,000	-----	-----	-----
1841.....	107,000,000	-----	-----	-----
1842.....	83,000,000	-----	-----	-----
1843.....	58,563,608	\$0 35	\$0 30	\$0 25
1844.....	75,000,000	37	31	26
1845.....	89,000,000	45	38	31
1846.....	105,000,000	40	35	30
1847.....	105,000,000	47	38	30
1848.....	128,506,091	45	38	30
1849.....	114,000,000	33	30	23
1850.....	131,000,000	47	40	33
1851.....	155,165,251	45	37	32
1854.....	204,689,207	53	47	42
1855.....	187,000,000	40	35	32
1856.....	-----	50	38	35
1857.....	214,778,822	58	50	43

This table shows that the prices of wool did not advance and recede with the amount of the currency. In some years it seemed to be influenced by it; in others not at all. The protective duties of 1842 did not place it under the operation of an increase in the currency any more, if as much as the ad valorem duty of the tariff of 1846. Indeed, so many are the elements affecting prices, especially of wool, that we must take a very comprehensive view of them, else statistical tables of wool production, prices, imports and exports of wool and woollens, and the currency, will serve no other purpose than create doubts, or mislead entirely.

But still there is clearly seen the great fact that from 1824 to the commencement of the civil war the growing of wool has not been as profitable as it ought to have been, or as all ought to wish it may become, when its great importance, in every light in which it may be regarded, is considered. We think there is a cause for this past unfavorable condition of the wool interest; and this cause is one that has never been mentioned, so far as our recollection serves. It is found in the fact that wool has a great domestic competitor, namely, cotton.

The very fact which so generally existed before the rebellion—the mixture of cotton with wool, even in broadcloths—shows the compulsion on manufacturers to avail themselves of the cheaper material in order to sell even broadcloths, which, far more than any other dress goods, were freed from the competition of cotton cloth; and this mixing of wool and cotton was most general at a time when wool was so unremunerative to the wool-grower that the number of sheep in the country was actually decreasing.

The following table exhibits the amount and price of cotton during these years, under the tariffs of 1842 and 1846; and the comparison of the production and prices of cotton with the rise and fall of prices of wool, will show that the latter was more influenced by the former than any other cause, save in the years 1853 and 1854, when the excessive amount of currency had forced the price of wool much above its highest point:

Years.	Pounds.	Price.	AVERAGE PRICE OF WOOL.		
			Fine.	Medium.	Coarse.
		Cents.	Cents.	Cents.	Cents.
1842	584,717,017	8.1	43 $\frac{1}{4}$	38 $\frac{1}{2}$	31 $\frac{1}{4}$
1843	792,297,106	6.2	35	30 $\frac{1}{4}$	25 $\frac{1}{2}$
1844	663,633,455	8.1	44 $\frac{1}{4}$	36 $\frac{3}{4}$	30
1845	872,905,996	5.92	42	36 $\frac{1}{4}$	30 $\frac{1}{2}$
1846	547,558,055	7.81	38	32 $\frac{3}{4}$	27
1847	527,219,958	10.34	47	39 $\frac{1}{2}$	30 $\frac{1}{4}$
1848	814,274,431	7.61	39 $\frac{3}{4}$	34 $\frac{1}{2}$	27 $\frac{1}{2}$
1849	1,026,602,269	6.4	39 $\frac{1}{4}$	34 $\frac{1}{4}$	30
1850	635,381,604	11.3	45 $\frac{1}{2}$	38 $\frac{1}{2}$	32 $\frac{3}{4}$
1851	927,237,089	12.11	46 $\frac{3}{4}$	40 $\frac{3}{4}$	35 $\frac{1}{2}$
1852	1,093,230,639	8.05	44 $\frac{1}{4}$	38 $\frac{1}{4}$	33
1853	1,111,570,370	9.85	58 $\frac{3}{4}$	53 $\frac{1}{2}$	49
1854	987,833,106	9.47	49	43	37
1855	1,008,424,601	8.74	46 $\frac{1}{4}$	37 $\frac{3}{4}$	33 $\frac{1}{4}$

It needs but a momentary glance at this table to find in it the solution of the difficulties presented by the tables preceding it. We see that the prices of wool sympathize with—we might say are governed by—those of cotton. This is the ruling power, and we think it will soon be found all-potential when cotton begins to assume its former magnitude in production.

The country must, under all circumstances, have a certain amount of woollen goods. The greater comfort of woollen over cotton clothing, and its superior adaptation to health in all seasons, even the warmest, will create a large consumption of wool. This consumption will increase as our woollen manufactories embrace a greater variety of production. The cheap and brilliant colors through the aniline dyes obtained from the distillation of coal will make the finer and lighter woollen goods favorites for ladies' wear, and our country should make its own broadcloths.

The question involved in a protective duty on wool is, whether the consumption of our country shall be furnished *entirely* by the wool grown in it, or in part by foreign wools and woollens. If the former, the duty must be a high one. This is seen in the experience of the country under former protective tariffs. If not so protected, then between the domestic competition from cotton, and the foreign one from foreign wools and woollens, between these upper and nether millstones, the wool interest, on the return of the accustomed cotton production, will be ground to atoms, as heretofore.

THE TRANSPORTATION QUESTION.

In the last monthly report we drew attention to the condition of the English markets, to the enormous imports, and the continued decrease of exports of produce, on account of the want of English demand for them, except cotton, at prevailing prices. Our general tables, showing the returns to this department of the prices in the several States, exhibited the great decrease in them between January 1, 1865, and January 1, 1866. Yet, in the face of these decreased prices, the market for western breadstuffs is almost nominal; but little of the great crops of the west seem to be really wanted. We also showed that under these conditions of our import and export trade, our specie was rapidly leaving this country, when a return to specie payments demanded its retention, and that our national bonds, instead of continuing to be a domestic debt, retaining the interest among us, was fast becoming a foreign debt, which would hereafter act as a constant drain of our specie.

We then called public attention to these facts chiefly for the purpose of awakening an interest in what western writers call "the transportation question," the absolute necessity of providing for cheapened freights between the western States and the eastern seaboard. Corn, now selling in New York at eighty cents per bushel, is used as fuel in Illinois. Throughout the west meetings and conventions are held asking Congress for aid in constructing a ship-canal around the Falls of Niagara, in order that western products may have a cheap and adequate water transportation to the seaboard by the St. Lawrence, as well as by the New York canals, and that this competition might serve to reduce the freights by railroads, which are alleged to be oppressive exactions.

It is not our purpose to examine how far these complaints against the railroads are just. It is sufficient for us to know that the vast products of the west demand greater transportation, and it is only by providing it that monopolies can be restrained.

The leading work for which the aid of the general government is invoked is the canal connecting Lake Erie and Lake Ontario. The latter lake approaches much nearer to the Hudson river than the former, and would bring that river and its tributary railroads in direct competition with the New York Central railroad and canal. This competition would effect much in removing the monopoly now complained of. Besides this great benefit in cheapening the agricultural products to the east, and enhancing their price in the west, the construction of the canal around the Falls of Niagara would open the way to a complete ship transportation of western products from Chicago to Liverpool. The cost of this canal is estimated at from six to eight million dollars, a sum great in the present indebted condition of the country, but not to be so regarded in view of the national benefits it would accomplish.

But besides the work proposed, it is suggested that the excessive charges for freights should be prevented by law. We have little confidence in such legislation, for restraining acts of this character are soon got rid of by subsequent legislation, or by evasion. But Congress does owe it to our vast inland commerce that it should be protected from a monopoly now oppressing both travel and transportation. We refer to such as exist in New Jersey, where by force of State legislation competing roads are forbidden to be made, and thus a monopoly is created.

In our judgment, the construction of all kinds of transportation facilities should be as free as the building of a manufactory, or a steam or sailing vessel. Neither New Jersey nor any other State has a right to say to its own or any other portion of the people of the United States, you shall not construct a railway or a canal within the limits of this State unless by special permission granted you by a legislative charter. No State has a right to thus control the commerce of

the country. It is given to the Congress of the United States "to regulate commerce," and that power and the condition of the country demand of it to abandon the granting of special charters, and to declare, by a general law, that companies may organize under it for the purpose of constructing any railway or other channel of travel or commerce, with no other limitation than properly securing the owners of the real estate over which the work may be made, and for such materials as may be necessary in its construction.

The State of Indiana has set a just and noble precedent for such legislation. Holding the way around Lake Michigan, it could have done as New Jersey did—lay conditions upon the right of way to Chicago, or to other points in Illinois, that would have created a revenue for that State which would, in a great degree, have freed its people from taxation for State purposes. But after the fullest discussion of this subject that State regarded the highways of commerce as free under the spirit and letter of our federal Union; that Ohio could not lay under contribution the products of Indiana; that Indiana could not make such a claim upon those of Illinois, nor upon the general commerce eastward and westward that might pass over its territory. And so thinking, it passed such an act as we contend should now be passed by Congress. It authorized the formation of companies to construct roads of all kinds wherever these companies chose to run them.

This action was worthy the west and of that State; not less honorable to its sense of right than just to the relation of the different States.

The granting of special charters belongs to a past age—to the period of Elizabeth, when the common welfare was made a monopoly to a few. *Then* monopolies were given to court favorites, against the general welfare; *now* to a few capitalists, at the expense of the common industry and against national rights.

AGRICULTURAL COLLEGES.

Two of the gravest errors have marked the course pursued by the friends of education in our country; one, however, belonging more to the cities than the other. These errors are, to scatter our educational resources by the establishment of too many institutions, and to expend too much in buildings. The latter is done mostly in cities, where the improvement of the city is more a purpose than the advancement of education.

Mr. Justus Liebig, in a conversation with Mr. Klippart, during his recent visit to Europe, referred to this evil, and what he said is thus stated by that gentleman:

"He said, among other things, You don't want much land; a few hundred acres is all-sufficient for all manner of experiments; and, you must allow me to repeat, you don't want to teach a specific system of model farming, for many reasons: first, not one student, perhaps, can get a farm precisely like your model farm; he may not be able to get so much grass land, or so much upland, or he may be unable to have farm buildings precisely like the model ones. Then, what good does your model do when nobody can copy it? Now, when you get home, pray do not misrepresent this idea. I want you to make experiments; not simply to show what can be done, but make experiments to show what can be done profitably, and what may be done by any intelligent farmer. Of course you cannot expect to accomplish much for the present generation of farmers;

but these seeds you sow will be reaped by the next and future generations. In Ohio you do not want to build a palace for an agricultural school. In America you spend too much money in putting up your educational buildings, and then starve your professors. I learn that you put up a very grand building in your city of Columbus, called the Starling Medical College; I have a picture of it. I am told it cost some \$70,000 or \$75,000; and now you are starving the professors in it. You did the same in Cleveland and Cincinnati. Then, I am told, you built two universities in Ohio, and now the professors can barely live on the salary you pay. The consequence is that these schools, colleges, or universities must run down. There is no place in the whole world where knowledge can make so much money as in America; therefore, your best men will not become teachers or professors, simply because they can make more money out of something else; and they naturally apply their talent and ability where it pays best. No man will engage in an educational course of life, for life, on a salary of \$1,200 or \$1,500 a year, when, by applying the same ability in some other pursuit, he can make \$4,000 or \$5,000 a year. Hence you have no first-class professors in America; but you have instead first-class business men, first-class mechanics, and managers of large and colossal establishments."

CROPS OF 1865.

TABLE NO. 1,

Showing the amount in bushels, &c., of each principal crop of the several States named, the yield per acre, the total acreage, the average price in each State, and the value of each crop, for 1865.

Products.	Amount of crop of 1865.	Average yield per acre.	Number of acres in each crop.	Value per bushel or pound.	Total valuation.
MAINE.					
Indian corn bushels..	1,692,020	34	49,765	\$1 21	\$2,037,344
Wheat	175,591	13	13,507	2 21 $\frac{1}{2}$	388,934
Rye	135,042	14 $\frac{1}{2}$	9,310 $\frac{3}{8}$	1 33 $\frac{1}{2}$	180,281
Oats	2,348,342	26	90,321	61	1,432,489
Barley	735,266	20	36,763 $\frac{1}{2}$	96	705,855
Buckwheat	356,684	20 $\frac{1}{2}$	17,399 $\frac{3}{8}$	90	321,016
Potatoes	5,391,864	138 $\frac{1}{2}$	39,072	57	3,073,362
Tobacco..... pounds..	7,280	750	9 $\frac{5}{7}$	22	1,601
Hay	1,429,511	1	1,429,511	11 81	16,882,525
Total.....			1,685,699		25,023,407
NEW HAMPSHIRE.					
Indian corn..... bushels..	1,468,090	33	44,487 $\frac{1}{2}$	1 21 $\frac{1}{2}$	1,782,729
Wheat.....	291,098	15 $\frac{7}{8}$	19,406 $\frac{1}{2}$	2 60	756,855
Rye	146,872	16	9,179 $\frac{1}{2}$	1 28 $\frac{1}{2}$	190,731
Oats	1,346,380	29 $\frac{1}{2}$	46,427	68	915,538
Barley	101,979	21 $\frac{1}{2}$	4,856 $\frac{1}{2}$	1 11 $\frac{1}{2}$	113,551
Buckwheat	74,956	16 $\frac{1}{2}$	4,684 $\frac{3}{8}$	1 01 $\frac{1}{2}$	76,268
Potatoes	3,183,500	120 $\frac{1}{2}$	26,529	68	2,164,780
Tobacco..... pounds..	57,600	800	72	22	12,672
Hay	793,327	1	793,327	14 70	11,663,907
Total.....			948,969		17,677,031
VERMONT.					
Indian corn..... bushels..	1,796,356	43 $\frac{3}{4}$	40,826 $\frac{3}{11}$	1 15 $\frac{1}{4}$	2,070,300
Wheat.....	558,811	18 $\frac{7}{8}$	31,045	2 18	1,218,208
Rye	151,748	16	9,484 $\frac{1}{2}$	1 28 $\frac{1}{2}$	194,426
Oats	4,213,926	39	108,049 $\frac{5}{13}$	53 $\frac{1}{2}$	2,254,450
Barley	10,375	28 $\frac{3}{4}$	3,461	1 08 $\frac{1}{4}$	109,157
Buckwheat.....	210,516	26	8,097	75	157,887
Potatoes	5,526,089	164	33,635	42	2,320,957
Tobacco..... pounds..	59,000	750	79	20	11,800
Hay	991,814	1 $\frac{1}{5}$	826,512	11 50	11,405,861
Total.....			1,061,189		19,743,046
MASSACHUSETTS.					
Indian corn..... bushels..	2,363,245	33 $\frac{3}{8}$	70,897 $\frac{1}{4}$	1 10 $\frac{1}{2}$	2,611,385
Wheat.....	107,465	17 $\frac{3}{8}$	6,097	2 21 $\frac{1}{2}$	237,766
Rye	413,957	14 $\frac{1}{2}$	28,065	1 29 $\frac{1}{2}$	536,073
Oats	1,194,827	26	45,955	72	860,275
Barley	144,598	19 $\frac{1}{2}$	7,415 $\frac{1}{4}$	1 21	174,963
Buckwheat.....	96,176	18 $\frac{3}{8}$	5,278 $\frac{1}{2}$	1 01 $\frac{1}{2}$	97,377
Potatoes	3,046,391	104 $\frac{1}{2}$	29,013 $\frac{1}{4}$	73 $\frac{1}{2}$	2,239,096
Tobacco..... pounds..	5,746,000	1,200	4,788 $\frac{3}{8}$	22 $\frac{1}{2}$	1,292,850
Hay	844,173	1 $\frac{1}{8}$	633,130	21 00	17,727,633
Total.....			830,629		25,777,418

Table No. 1—Continued.

Products.	Amount of crop of 1865.	Average yield per acre.	Number of acres in each crop.	Value per bushel or pound.	Total valuation.
RHODE ISLAND.					
Indian corn.....bushels..	497,918	31½	15,809	1 22½	\$609,949
Wheat.....".....	1,413	18	1,768	1 22½	38,841
Rye.....".....	31,707	32½	4,314	67½	94,636
Oats.....".....	140,202	26½	1,201	1 37½	43,754
Barley.....".....	31,821	107½	4,913	82½	433,724
Buckwheat.....".....	3,097	1,000	1½	30	444
Potatoes.....".....	525,727	1,000	1½	30	444
Tobacco.....pounds..	1,479	1,000	1½	30	444
Hay.....tons.....	64,312	1½	57,166	22 50	1,447,020
Total.....			85,172		2,668,368
CONNECTICUT.					
Indian corn.....bushels..	2,265,818	31½	73,091	1 22½	2,775,627
Wheat.....".....	71,881	17½	4,107	2 37½	170,717
Rye.....".....	776,030	14	55,431	1 31½	1,018,539
Oats.....".....	2,363,317	35½	65,648	66½	1,575,543
Barley.....".....	19,200	23½	817	1 37	26,304
Buckwheat.....".....	300,545	16½	18,784	1 07½	323,085
Potatoes.....".....	1,558,177	121½	12,051½	76½	1,188,110
Tobacco.....pounds..	8,167,681	1,350	6,050	30	2,450,304
Hay.....tons.....	596,191	1½	476,953	23 50	14,010,488
Total.....			662,932		23,538,717
NEW YORK.					
Indian corn.....bushels..	25,344,325	24	1,056,013½	95	24,077,109
Wheat.....".....	12,556,406	15½	837,094	2 08½	26,180,096
Rye.....".....	5,309,874	15½	353,991	1 02	5,416,071
Oats.....".....	48,675,090	34½	1,533,574	51½	25,067,671
Barley.....".....	4,329,406	22½	192,245½	1 02	4,415,994
Buckwheat.....".....	5,535,553	18	307,531	95	5,258,775
Potatoes.....".....	30,249,200	107	282,703	62	18,754,504
Tobacco.....pounds..	11,836,607	1,091	10,849½	14	1,657,125
Hay.....tons.....	5,288,352	1½	3,777,394	12 33	65,205,380
Total.....			8,351,395		176,032,725
NEW JERSEY.					
Indian corn.....bushels..	9,733,901	42½	229,147	85½	8,322,485
Wheat.....".....	1,265,690	12½	102,071	2 32½	2,945,793
Rye.....".....	1,246,458	13½	92,330	1 04	1,296,316
Oats.....".....	6,309,211	32	197,163	51½	3,249,244
Barley.....".....	27,167	22	1,235	1 12	30,427
Buckwheat.....".....	783,069	15½	49,719	1 32½	1,035,608
Potatoes.....".....	4,122,151	90½	45,549	87	3,586,270
Tobacco.....pounds..	170,768	1,000	170½	20	34,153
Hay.....tons.....	461,958	1½	263,976	13 89	6,416,596
Total.....			981,361		26,916,892

Table No. 1—Continued.

Products.	Amount of crop of 1865.	Average yield per acre.	Number of acres in each crop.	Value per bushel or pound.	Total valuation.
PENNSYLVANIA.					
Indian corn.....bushels..	35,477,106	40	886,928	80	28,838,168
Wheat.....".....	11,688,511	12 $\frac{1}{2}$	958,075	2 05 $\frac{3}{8}$	23,992,704
Rye.....".....	6,569,690	13 $\frac{1}{2}$	486,644	1 37 $\frac{3}{8}$	9,034,271
Oats.....".....	46,571,661	34	1,369,754	48	22,354,397
Barley.....".....	603,470	22 $\frac{1}{2}$	67,423	96 $\frac{3}{8}$	583,354
Buckwheat.....".....	7,199,058	16 $\frac{1}{2}$	436,307	1 03	7,415,030
Potatoes.....".....	12,028,353	75 $\frac{1}{2}$	159,842	98 $\frac{1}{8}$	11,787,786
Tobacco.....pounds..	5,512,096	977	5,641	09 $\frac{3}{4}$	511,121
Hay.....tons.....	2,463,545	1 $\frac{3}{8}$	1,542,216	11 23	27,665,610
Total.....	-----	-----	5,912,830	-----	132,682,441
MARYLAND.					
Indian corn.....bushels..	14,308,739	31 $\frac{1}{10}$	475,373 $\frac{1}{2}$	76 $\frac{1}{10}$	10,883,950
Wheat.....".....	5,479,635	9 $\frac{1}{4}$	579,576	2 06 $\frac{1}{2}$	11,315,446
Rye.....".....	476,770	10 $\frac{3}{8}$	45,692	85 $\frac{5}{8}$	409,035
Oats.....".....	6,135,779	24 $\frac{1}{8}$	255,657	43 $\frac{3}{8}$	2,644,520
Barley.....".....	26,591	27 $\frac{1}{2}$	967	97 $\frac{1}{2}$	25,926
Buckwheat.....".....	164,048	22 $\frac{1}{8}$	7,411	97	159,127
Potatoes.....".....	1,274,393	65 $\frac{1}{2}$	19,456	84	1,070,490
Tobacco.....pounds..	29,963,672	690 $\frac{3}{8}$	43,425 $\frac{3}{8}$	11 $\frac{1}{2}$	3,445,922
Hay.....tons.....	181,341	1 $\frac{1}{2}$	120,894	16 42 $\frac{1}{2}$	2,978,525
Total.....	-----	-----	1,548,452	-----	32,937,941
DELAWARE.					
Indian corn.....bushels..	3,892,337	16 $\frac{1}{2}$	235,596	75	2,919,253
Wheat.....".....	527,477	7 $\frac{1}{2}$	70,330	2 00	1,054,954
Rye.....".....	37,038	-----	-----	1 00	37,038
Oats.....".....	1,884,437	12	157,036	47	885,685
Barley.....".....	4,595	7	656 $\frac{3}{7}$	95	4,365
Buckwheat.....".....	15,641	10 $\frac{1}{2}$	1,490	1 00	15,641
Potatoes.....".....	360,294	112 $\frac{1}{2}$	3,217	77 $\frac{1}{2}$	277,426
Tobacco.....pounds..	7,029	500	14	12	8,435
Hay.....tons.....	29,800	1 $\frac{1}{4}$	23,840	17 00	506,600
Total.....	-----	-----	492,179	-----	5,709,397
KENTUCKY.					
Indian corn.....bushels..	57,512,833	34	1,691,554	43 $\frac{1}{2}$	24,922,247
Wheat.....".....	2,788,184	7 $\frac{1}{4}$	384,577	1 70 $\frac{1}{2}$	4,753,854
Rye.....".....	476,453	9	52,939	93 $\frac{1}{2}$	444,689
Oats.....".....	4,824,421	24 $\frac{1}{2}$	198,264	46	2,219,234
Barley.....".....	161,778	21 $\frac{1}{8}$	7,703	1 09	176,338
Buckwheat.....".....	13,478	19 $\frac{1}{2}$	682	1 50 $\frac{5}{8}$	20,301
Potatoes.....".....	1,395,468	59	23,652	90 $\frac{3}{8}$	1,265,224
Tobacco.....pounds..	54,108,646	736 $\frac{1}{2}$	73,517	12	6,493,037
Hay.....tons.....	127,301	1 $\frac{1}{10}$	90,929	12 10	1,540,342
Total.....	-----	-----	2,523,817	-----	41,835,266

Table showing the amount in bushels, &c.—Continued.

Products.	Amount of crop of 1863.	Average yield per acre.	Number of acres in each crop.	Value per bushel or pound.	Total valuation.
OHIO.					
Indian corn..... bushels..	94, 119, 644	41 $\frac{1}{2}$	2, 267, 943	\$0 44 $\frac{3}{4}$	\$41, 816, 012
Wheat..... " ..	17, 601, 472	9 $\frac{1}{2}$	1, 852, 786 $\frac{1}{2}$	1 59 $\frac{1}{2}$	28, 112, 065
Rye..... " ..	687, 350	12 $\frac{1}{2}$	54, 988	72 $\frac{1}{2}$	500, 391
Oats..... " ..	18, 963, 608	31 $\frac{3}{4}$	598, 851	34 $\frac{1}{6}$	6, 579, 233
Barley..... " ..	1, 559, 203	22 $\frac{7}{10}$	68, 687	89 $\frac{1}{2}$	1, 395, 487
Buckwheat..... " ..	1, 332, 645	16	83, 290	91 $\frac{1}{2}$	1, 217, 149
Potatoes..... " ..	4, 385, 087	83	52, 832	91 $\frac{1}{2}$	4, 026, 971
Tobacco..... pounds..	26, 116, 138	744	35, 102	9 $\frac{1}{10}$	2, 376, 568
Hay..... tons.....	2, 158, 021	1 $\frac{3}{8}$	1, 294, 942	8 00	17, 264, 168
Total.....			6, 309, 421		103, 288, 044
MICHIGAN.					
Indian corn..... bushels..	17, 520, 305	38 $\frac{1}{2}$	455, 073	60 $\frac{1}{9}$	10, 706, 850
Wheat..... " ..	16, 378, 488	15 $\frac{3}{8}$	1, 045, 435	1 65	27, 024, 505
Rye..... " ..	413, 150	14 $\frac{1}{2}$	31, 941	83	342, 915
Oats..... " ..	7, 275, 331	37 $\frac{3}{4}$	192, 724	40	2, 910, 132
Barley..... " ..	391, 562	22 $\frac{3}{8}$	17, 275	96 $\frac{1}{2}$	377, 847
Buckwheat..... " ..	1, 136, 365	20	56, 818	88	1, 000, 001
Potatoes..... " ..	5, 475, 324	145 $\frac{3}{4}$	37, 760	37 $\frac{1}{2}$	2, 053, 246
Tobacco..... pounds..	273, 320	1, 300	2, 103	15 $\frac{1}{2}$	42, 364
Hay..... tons.....	1, 231, 272	1 $\frac{1}{2}$	684, 040	12 16 $\frac{3}{8}$	14, 980, 476
Total.....			1, 523, 169		59, 438, 336
INDIANA.					
Indian corn..... bushels..	116, 069, 316	40 $\frac{2}{5}$	2, 873, 003	38 $\frac{7}{10}$	44, 918, 823
Wheat..... " ..	13, 020, 803	8 $\frac{1}{2}$	1, 531, 859	1 35 $\frac{1}{2}$	17, 643, 188
Rye..... " ..	371, 123	12 $\frac{1}{2}$	30, 420	80 $\frac{1}{2}$	298, 135
Oats..... " ..	8, 062, 351	29 $\frac{2}{5}$	272, 376	35 $\frac{3}{10}$	2, 894, 384
Barley..... " ..	350, 504	22 $\frac{1}{5}$	15, 779	98 $\frac{1}{2}$	345, 246
Buckwheat..... " ..	299, 388	18	16, 633	87 $\frac{3}{8}$	262, 426
Potatoes..... " ..	3, 527, 314	84	41, 992	78	2, 751, 305
Tobacco..... pounds..	8, 547, 889	639 $\frac{1}{2}$	13, 376	10 $\frac{1}{5}$	869, 035
Hay..... tons.....	1, 251, 646	1 $\frac{3}{8}$	750, 988	9 40	11, 765, 472
Total.....			5, 546, 426		81, 748, 014
ILLINOIS.					
Indian corn..... bushels..	177, 095, 852	35 $\frac{1}{4}$	5, 023, 996	29 $\frac{1}{4}$	51, 800, 536
Wheat..... " ..	25, 266, 745	11	2, 296, 977	1 09	27, 541, 732
Rye..... " ..	833, 069	16 $\frac{1}{2}$	51, 004	49 $\frac{1}{2}$	410, 977
Oats..... " ..	28, 088, 197	35	802, 520	24	6, 741, 167
Barley..... " ..	1, 058, 931	21	50, 425	56 $\frac{1}{2}$	600, 943
Buckwheat..... " ..	287, 379	17 $\frac{1}{2}$	16, 422	89 $\frac{1}{2}$	253, 066
Potatoes..... " ..	5, 864, 408	117	50, 124	47 $\frac{1}{2}$	2, 770, 933
Tobacco..... pounds..	18, 867, 722	777	24, 283	10 $\frac{7}{16}$	1, 969, 316
Hay..... tons.....	2, 600, 070	1 $\frac{1}{2}$	1, 733, 380	9 30	24, 180, 651
Total.....			10, 049, 131		116, 274, 321

Table showing the amount in bushels, &c.—Continued.

Products.	Amount of crop of 1865.	Average yield per acre.	Number of acres in each crop.	Value per bushel or pound.	Total valuation.
MISSOURI.					
Indian corn bushels..	52,021,715	39	1,333,890	\$0 52	\$27,051,292
Wheat..... " ..	2,953,363	12 $\frac{3}{4}$	231,636	1 62 $\frac{3}{8}$	4,824,336
Rye..... " ..	218,529	16 $\frac{3}{8}$	13,111	89 $\frac{1}{4}$	196,229
Oats..... " ..	2,501,013	26 $\frac{1}{8}$	90,534	45 $\frac{5}{8}$	1,146,297
Barley..... " ..	148,855	23 $\frac{1}{4}$	6,402	117 $\frac{3}{11}$	174,566
Buckwheat..... " ..	72,461	20 $\frac{1}{4}$	3,535	89	64,490
Potatoes..... " ..	1,139,057	122 $\frac{2}{7}$	9,347	62 $\frac{1}{4}$	720,011
Tobacco..... pounds..	15,237,982	940	16,211	13 $\frac{3}{8}$	2,038,080
Hay..... tons.....	519,479	1 $\frac{3}{4}$	296,702	12 33	6,301,276
Total.....			2,001,368		42,516,577
WISCONSIN.					
Indian corn bushels..	13,449,405	41 $\frac{1}{2}$	324,084	46	6,209,726
Wheat..... " ..	20,307,920	16 $\frac{1}{2}$	1,208,805	1 09	22,135,632
Rye..... " ..	945,400	17 $\frac{1}{2}$	54,806	63	595,602
Oats..... " ..	18,466,758	40 $\frac{3}{8}$	454,100	28	5,170,692
Barley..... " ..	843,649	26 $\frac{1}{2}$	31,836	70 $\frac{7}{10}$	596,455
Buckwheat..... " ..	85,466	20	4,273	69	58,972
Potatoes..... " ..	4,925,341	141 $\frac{3}{8}$	34,931	36	1,773,123
Tobacco..... pounds..	162,891	1,300	125 $\frac{1}{4}$	12	19,547
Hay..... tons.....	1,066,182	1 $\frac{1}{2}$	710,788	10 14	10,811,085
Total.....			2,823,748		47,370,834
IOWA.					
Indian corn bushels..	62,997,813	42 $\frac{3}{8}$	1,478,822	30	18,899,344
Wheat..... " ..	13,698,542	14 $\frac{3}{8}$	938,229	1 00 $\frac{1}{2}$	13,702,788
Rye..... " ..	119,333	18 $\frac{3}{8}$	6,629	59	70,406
Oats..... " ..	12,007,380	38 $\frac{1}{4}$	315,984	26 $\frac{1}{2}$	3,145,934
Barley..... " ..	561,068	25 $\frac{1}{4}$	20,403	56 $\frac{1}{2}$	317,003
Buckwheat..... " ..	298,646	18 $\frac{3}{8}$	15,999	82	244,890
Potatoes..... " ..	3,360,641	120 $\frac{1}{4}$	28,005 $\frac{1}{8}$	43	1,445,176
Tobacco..... pounds..	419,811	883 $\frac{3}{4}$	475 $\frac{3}{8}$	19 $\frac{1}{2}$	81,863
Hay..... tons.....	1,018,455	1 $\frac{1}{4}$	581,974	7 35 $\frac{1}{2}$	7,590,737
Total.....			3,386,520		45,498,141
MINNESOTA.					
Indian corn bushels..	5,577,795	38	146,784	51 $\frac{1}{2}$	2,872,564
Wheat..... " ..	3,425,467	20 $\frac{3}{8}$	171,273	80	2,740,374
Rye..... " ..	178,171	22 $\frac{3}{4}$	8,099	65	125,811
Oats..... " ..	3,388,848	41 $\frac{1}{2}$	81,659	39	1,321,651
Barley..... " ..	178,310	29	6,149	55	98,071
Buckwheat..... " ..	35,414	23	1,540	80	28,331
Potatoes..... " ..	3,244,711	197	16,420	35	1,136,649
Tobacco..... pounds..	30,029	1,000	30	20	6,005
Hay..... tons.....	274,217	1 $\frac{7}{10}$	161,304	8 59	2,355,524
Total.....			593,258		10,684,980

Table showing the amount in bushels, &c.—Continued.

Products.	Amount of crop of 1865.	Average yield per acre.	Number of acres in each crop.	Value per bushel or pound.	Total valuation.
KANSAS.					
Indian corn.....bushels..	6,729,236	41 $\frac{1}{2}$	163,463	\$0 53	\$3,566,495
Wheat....." ..	191,519	15 $\frac{1}{2}$	12,768	1 77	338,989
Rye....." ..	4,061	23	176 $\frac{1}{2}$	1 09	4,426
Oats....." ..	155,290	34 $\frac{1}{2}$	4,567 $\frac{1}{2}$	66 $\frac{1}{2}$	102,880
Barley....." ..	6,661	28 $\frac{1}{2}$	235	1 10 $\frac{1}{2}$	7,332
Buckwheat....." ..	24,288	25 $\frac{1}{2}$	962	1 52 $\frac{1}{2}$	37,039
Potatoes....." ..	276,720	119	2,325	97	268,419
Tobacco.....pounds..	22,043	533	41 $\frac{1}{2}$	25	5,511
Hay.....tons.....	118,348	2	59,174	8 00	946,784
Total.....			243,712		5,347,875
NEBRASKA TERRITORY.					
Indian corn.....bushels..	2,494,084	46 $\frac{1}{2}$	53,636	59	4,471,510
Wheat....." ..	166,348	18	9,241 $\frac{1}{2}$	1 49	247,859
Rye....." ..	2,080	18	116	1 00	2,080
Oats....." ..	335,926	38 $\frac{2}{3}$	8,614	53 $\frac{4}{11}$	179,262
Barley....." ..	6,297	26 $\frac{2}{3}$	242	1 16 $\frac{1}{2}$	7,356
Buckwheat....." ..	6,146	26 $\frac{2}{3}$	230 $\frac{1}{2}$	1 37 $\frac{1}{2}$	8,440
Potatoes....." ..	171,885	138 $\frac{2}{3}$	1,246	64 $\frac{1}{2}$	110,866
Tobacco.....pounds..	1,270	500	2 $\frac{1}{2}$	20 $\frac{1}{2}$	260
Hay.....tons.....	29,425	2	14,712 $\frac{1}{2}$	5 64	165,957
Total.....			88,041		5,193,590

TABLE NO. 2.

Summary for each crop, showing the amount, the number of acres, and the value of each crop, for 1865.

INDIAN CORN.

States.	Bushels.	Acres.	Value.
Maine.....	1,692,020	49,765	\$2,037,344
New Hampshire.....	1,468,090	44,487	1,782,729
Vermont.....	1,796,356	40,826	2,070,300
Massachusetts.....	2,363,245	70,897	2,611,385
Rhode Island.....	497,918	15,809	609,949
Connecticut.....	2,265,818	73,091	2,775,627
New York.....	25,344,325	1,056,013	24,077,109
New Jersey.....	9,733,901	229,147	8,322,485
Pennsylvania.....	35,477,106	886,928	28,838,168
Maryland.....	14,308,739	475,373	10,888,950
Delaware.....	3,892,337	235,596	2,919,253
Kentucky.....	57,512,833	1,691,554	24,922,247
Ohio.....	94,119,644	2,267,943	41,816,012
Michigan.....	17,520,305	455,073	10,706,850
Indiana.....	116,069,316	2,873,003	44,918,823
Illinois.....	177,095,852	5,023,996	51,800,536
Missouri.....	52,021,715	1,333,890	27,051,292
Wisconsin.....	13,449,405	324,084	6,209,726
Iowa.....	62,997,813	1,478,822	18,899,344
Minnesota.....	5,577,795	146,784	2,872,564
Kansas.....	6,729,236	163,463	3,566,495
Nebraska Territory.....	2,494,084	53,636	4,471,510
Total.....	704,427,853	18,990,180	324,168,698

WHEAT.

Maine.....	175,591	13,507	\$388,934
New Hampshire.....	291,098	19,406	756,855
Vermont.....	558,811	31,045	1,218,208
Massachusetts.....	107,465	6,097	237,766
Rhode Island.....	1,413	.....	.....
Connecticut.....	71,881	4,107	170,717
New York.....	12,556,406	837,094	26,180,096
New Jersey.....	1,265,690	102,071	2,945,793
Pennsylvania.....	11,688,511	958,075	23,992,704
Maryland.....	5,479,635	579,576	11,315,446
Delaware.....	527,477	70,330	1,054,954
Kentucky.....	2,788,184	384,577	4,753,854
Ohio.....	17,601,472	1,852,786	28,112,065
Michigan.....	16,378,488	1,045,435	27,024,505
Indiana.....	13,020,803	1,531,859	17,643,188
Illinois.....	25,266,745	2,296,977	27,541,732
Missouri.....	2,953,363	231,636	4,824,336
Wisconsin.....	20,307,920	1,208,805	22,135,632
Iowa.....	13,698,542	938,229	13,702,788
Minnesota.....	3,425,467	171,273	2,740,374
Kansas.....	191,519	12,768	338,989
Nebraska Territory.....	166,348	9,241	247,859
Total.....	148,522,827	12,304,894	217,330,795

Table No. 2—Continued.

RYE.

States.	Bushels.	Acres.	Value.
Maine	135, 042	9, 310	\$180, 281
New Hampshire	146, 872	9, 179	190, 731
Vermont	151, 748	9, 484	194, 426
Massachusetts	413, 957	28, 065	536, 073
Rhode Island	31, 707	1, 768	38, 841
Connecticut	776, 030	55, 431	1, 018, 539
New York	5, 309, 874	353, 991	5, 416, 071
New Jersey	1, 246, 458	92, 330	1, 296, 316
Pennsylvania	6, 569, 690	486, 644	9, 034, 271
Maryland	476, 770	45, 692	409, 035
Delaware	37, 038	-----	37, 038
Kentucky	476, 453	52, 939	444, 689
Ohio	687, 350	54, 988	500, 391
Michigan	413, 150	31, 941	342, 915
Indiana	371, 123	30, 420	298, 135
Illinois	833, 069	51, 004	410, 977
Missouri	218, 529	13, 111	196, 229
Wisconsin	945, 400	54, 806	595, 602
Iowa	119, 333	6, 629	70, 406
Minnesota	178, 171	8, 099	125, 811
Kansas	4, 061	176	4, 426
Nebraska Territory	2, 080	116	2, 080
Total	19, 543, 905	1, 396, 123	21, 343, 283

OATS.

Maine	2, 348, 342	90, 321	\$1, 432, 489
New Hampshire	1, 346, 380	46, 427	915, 538
Vermont	4, 213, 926	108, 049	2, 254, 450
Massachusetts	1, 194, 827	45, 955	860, 275
Rhode Island	140, 202	4, 314	94, 636
Connecticut	2, 363, 317	65, 648	1, 575, 543
New York	48, 675, 090	1, 533, 574	25, 067, 671
New Jersey	6, 309, 211	197, 163	3, 249, 244
Pennsylvania	46, 571, 661	1, 369, 754	22, 354, 397
Maryland	6, 135, 779	255, 657	2, 644, 520
Delaware	1, 884, 437	157, 036	885, 685
Kentucky	4, 824, 421	198, 264	2, 219, 234
Ohio	18, 963, 608	598, 851	6, 579, 233
Michigan	7, 275, 331	192, 724	2, 910, 132
Indiana	8, 062, 351	272, 376	2, 894, 384
Illinois	28, 088, 197	802, 520	6, 741, 167
Missouri	2, 501, 013	90, 534	1, 146, 297
Wisconsin	18, 466, 758	454, 100	5, 170, 692
Iowa	12, 007, 380	315, 984	3, 145, 934
Minnesota	3, 888, 848	81, 659	1, 321, 651
Kansas	155, 290	4, 567	102, 880
Nebraska Territory	335, 926	8, 614	179, 262
Total	225, 252, 295	6, 894, 091	93, 745, 314

Table No. 2—Continued.

BARLEY.

States.	Bushels.	Acres.	Value.
Maine.....	735,266	36,763	\$705,855
New Hampshire.....	101,979	4,856	113,551
Vermont.....	100,375	3,461	109,157
Massachusetts.....	144,598	7,415	174,963
Rhode Island.....	31,821	1,201	43,754
Connecticut.....	19,200	817	26,304
New York.....	4,329,406	192,245	4,415,994
New Jersey.....	27,167	1,235	30,427
Pennsylvania.....	603,470	67,423	583,354
Maryland.....	26,591	967	25,926
Delaware.....	4,595	656	4,365
Kentucky.....	161,778	7,703	176,338
Ohio.....	1,559,203	68,687	1,395,487
Michigan.....	391,562	17,275	377,847
Indiana.....	350,504	15,779	345,246
Illinois.....	1,058,931	50,425	600,943
Missouri.....	148,855	6,402	174,566
Wisconsin.....	843,649	31,836	596,455
Iowa.....	561,068	20,403	317,003
Minnesota.....	178,310	6,149	98,071
Kansas.....	6,661	235	7,332
Nebraska Territory.....	6,297	242	7,356
Total.....	11,391,286	542,175	10,330,294

BUCKWHEAT.

Maine.....	356,684	17,399	\$321,016
New Hampshire.....	74,956	4,684	76,268
Vermont.....	210,516	8,097	157,887
Massachusetts.....	96,176	5,278	97,377
Rhode Island.....	3,097	-----	3,406
Connecticut.....	300,545	18,784	323,085
New York.....	5,535,553	307,531	5,258,775
New Jersey.....	783,069	49,719	1,635,608
Pennsylvania.....	7,199,058	436,307	7,415,030
Maryland.....	164,048	7,411	159,127
Delaware.....	15,641	1,490	15,641
Kentucky.....	13,478	682	20,301
Ohio.....	1,332,645	83,290	1,217,149
Michigan.....	1,136,365	56,818	1,000,001
Indiana.....	299,388	16,633	262,426
Illinois.....	287,379	16,422	258,066
Missouri.....	72,461	3,535	64,490
Wisconsin.....	85,466	4,273	58,972
Iowa.....	298,646	15,999	244,890
Minnesota.....	35,414	1,540	23,331
Kansas.....	24,288	962	37,039
Nebraska Territory.....	6,146	230	8,440
Total.....	18,331,019	1,057,084	18,063,325

Table No. 2—Continued.

POTATOES.

States.	Bushels.	Acres.	Value.
Maine.....	5,391,864	39,072	\$3,073,362
New Hampshire.....	3,183,500	26,529	2,164,780
Vermont.....	5,526,089	33,635	2,320,957
Massachusetts.....	3,046,391	29,013	2,239,096
Rhode Island.....	525,727	4,913	433,724
Connecticut.....	1,558,177	12,051	1,188,110
New York.....	30,249,200	282,703	18,754,504
New Jersey.....	4,122,151	45,549	3,586,270
Pennsylvania.....	12,028,333	159,842	11,787,786
Maryland.....	1,274,393	19,456	1,070,490
Delaware.....	360,294	3,217	277,426
Kentucky.....	1,395,468	23,652	1,265,224
Ohio.....	4,385,087	52,832	4,026,971
Michigan.....	5,475,324	37,760	2,053,246
Indiana.....	3,527,314	41,992	2,751,305
Illinois.....	5,864,408	50,124	2,770,933
Missouri.....	1,139,057	9,347	720,011
Wisconsin.....	4,925,341	34,931	1,773,123
Iowa.....	3,360,641	28,005	1,445,176
Minnesota.....	3,244,711	16,420	1,136,649
Kansas.....	276,720	2,325	268,419
Nebraska Territory.....	171,885	1,246	110,866
Total.....	101,032,095	964,614	65,218,428

TOBACCO.

	Pounds.		
Maine.....	7,280	9	\$1,601
New Hampshire.....	57,600	72	12,672
Vermont.....	59,000	79	11,800
Massachusetts.....	5,746,000	4,788	1,292,850
Rhode Island.....	1,479	1	444
Connecticut.....	8,167,681	6,050	2,450,304
New York.....	11,836,607	10,849	1,657,125
New Jersey.....	170,768	170	34,153
Pennsylvania.....	5,512,096	5,641	511,121
Maryland.....	29,963,672	43,425	3,445,922
Delaware.....	7,029	14	8,435
Kentucky.....	54,108,646	73,517	6,493,037
Ohio.....	26,116,138	35,102	2,376,568
Michigan.....	273,320	2,103	42,364
Indiana.....	8,547,889	13,376	869,035
Illinois.....	18,867,722	24,283	1,969,316
Missouri.....	15,237,982	16,211	2,038,080
Wisconsin.....	162,891	125	19,547
Iowa.....	419,811	475	81,863
Minnesota.....	30,029	30	6,005
Kansas.....	22,043	41	5,511
Nebraska Territory.....	1,270	2	260
Total.....	185,316,953	236,363	23,348,013

Table No. 2—Continued.

HAY

States.	Tons.	Acres.	Value.
Maine.....	1,429,511	1,429,511	\$16,882,525
New Hampshire.....	793,327	793,327	11,663,907
Vermont.....	991,814	826,512	11,405,861
Massachusetts.....	844,173	633,130	17,727,633
Rhode Island.....	64,312	57,166	1,447,020
Connecticut.....	596,191	476,953	14,010,488
New York.....	5,288,352	3,777,394	65,205,380
New Jersey.....	461,958	263,976	6,416,596
Pennsylvania.....	2,463,545	1,542,216	27,665,610
Maryland.....	181,341	120,894	2,978,525
Delaware.....	29,800	23,840	506,600
Kentucky.....	127,301	90,929	1,540,342
Ohio.....	2,158,021	1,294,942	17,264,168
Michigan.....	1,231,272	684,040	14,980,476
Indiana.....	1,251,646	750,988	11,765,472
Illinois.....	2,600,070	1,733,380	24,180,651
Missouri.....	519,479	296,702	6,301,276
Wisconsin.....	1,066,182	710,788	10,811,085
Iowa.....	1,018,455	581,974	7,590,737
Minnesota.....	274,217	161,304	2,355,524
Kansas.....	118,348	59,174	946,784
Nebraska Territory.....	29,425	14,712	165,957
Total.....	23,538,740	16,323,852	273,812,617

TABLE No. 3.

General summary showing the number of bushels, &c., of each crop, the number of acres of each, the value of each, and the bushels, acres, and value of all, and the increase and decrease of the same, for the years 1863, 1864, and 1865, and the comparison between 1864 and 1865.

AMOUNT OF CROPS.

	1863.	1864.	1865.	Increase in 1865.	Decrease in 1865.
Indian corn..bush.	397,839,212	530,451,403	704,427,853	173,976,450	.....
Wheat.....do..	173,677,928	160,695,823	148,522,827	.....	12,172,996
Rye.....do..	19,989,335	19,872,975	19,543,905	.....	329,070
Oats.....do..	170,129,864	175,990,194	225,252,295	49,262,101	.....
Barley.....do..	12,158,195	10,716,328	11,391,286	674,958	.....
Buckwheat..do..	15,786,122	18,700,540	18,331,019	.....	369,521
Potatoes.....do..	98,965,198	96,532,029	101,032,095	4,500,066	.....
Total.....do..	888,546,554	1,012,959,292	1,228,501,280	228,413,575	12,871,587
Tobacco..pounds.	163,353,082	197,460,229	185,316,953	.....	12,143,276
Hay.....tons.	18,346,730	18,116,691	23,538,740	5,422,049	.....

Table No. 3—Continued.

ACREAGE OF CROPS.

Indian corn..acres..	15,312,441	17,438,752	18,990,180	1,551,428	-----
Wheat.....do..	13,098,936	13,158,089	12,304,894	-----	853,195
Rye.....do..	1,439,667	1,410,983	1,396,123	-----	14,860
Oats.....do..	6,686,174	6,461,750	6,894,091	432,341	-----
Barley.....do..	557,299	540,317	542,175	1,858	-----
Buckwheat..do..	1,054,060	1,051,700	1,057,084	5,384	-----
Potatoes....do..	1,129,804	902,295	964,614	62,319	-----
Tobacco.....do..	216,423	239,826	236,363	-----	3,463
Hay.....do..	15,641,504	15,034,564	16,323,852	1,289,288	-----
Total.....do..	55,136,248	56,238,276	58,709,376	3,342,618	871,518

VALUE OF CROPS.

Indian corn.....	\$278,089,609	\$527,718,183	\$324,168,698	-----	\$203,549,485
Wheat.....	197,992,837	294,315,119	217,330,195	-----	76,984,924
Rye.....	20,589,015	31,975,013	21,343,283	-----	10,631,730
Oats.....	105,990,905	139,381,247	93,745,314	-----	45,635,933
Barley.....	13,496,373	16,941,023	10,330,294	-----	6,610,729
Buckwheat.....	12,660,469	21,986,763	18,063,325	-----	3,923,438
Potatoes.....	55,024,650	77,184,043	65,218,428	-----	11,965,615
Tobacco.....	24,239,609	29,335,225	23,348,013	-----	5,987,212
Hay.....	247,680,855	365,707,074	273,812,617	-----	91,894,457
Total value..	955,764,322	1,504,543,690	1,047,360,167	-----	457,183,523

Explanation and comment on the foregoing tables.

The first of these three tables exhibits the *amount*, the *yield* per acre, the *total acreage*, the *price* per bushel, &c., and the *total value*, of each of the leading crops for the States named. The *amount* is estimated from the returns of correspondents, which are reported by *tenths*, increase or decrease from the crop of the preceding year, and the *yield* per acre from their returns, and also the price per bushel, &c., in their counties. The average yield per acre and price per bushel for each State are ascertained from these county returns. The second table is made up from the first, in order to exhibit the *amount*, *acreage*, and *value* of each crop; and the third table is a *summary* from the second.

The *third* of these tables presents much for our reflection. Whilst it is a most condensed statement of the greatest agriculture the world has seen, it is not pretended to be precisely accurate. It aims but to show, in a general approximation to correctness, the vast results of American agricultural industry, and the fluctuations it meets each year.

In commenting on a similar exhibit a year ago we gave the following table, showing to what extent the rate of gold affected these crops. We give the table here in order to add to it the crop of 1865, and to show how this rate has affected its value:

Years.	Value of crops.	Rate of gold.	Gold increase per cent.	Inc'se value of crops per cent.
1862	\$706,887,495	131	-----	-----
1863	955,764,322	147	12	35
1864	1,440,415,435	227	54	50
1865	1,047,360,167	140	38½ decrease.	30.4 decrease.

The value of the crops of 1864 was \$1,504,543,690; but in this table the value of the crops of Kentucky was omitted, in order to compare the total value with the preceding year, which did not embrace that State. In the comparison now made between 1864 and 1865 the full value of 1864 is considered, as both these years embrace the crops of that State.

We assumed that the difference between twelve per cent. increase in gold value and thirty-five per cent. increase in the value of the crops for 1863, being twenty-three per cent., showed the increased value given to the crops by the war demand chiefly.

It will be seen, then, that great as is the decrease in the value of the crop of 1865, (although so much greater in amount than the crop of 1864,) yet it is still eight per cent. less than the decrease in the value of gold, although the war demand has ceased. This fact indicates that the fall in prices which commenced a few months ago will continue, unless some cause tending to raise the value of gold or to create a foreign demand for our crops will intervene. We see nothing that gives such an indication.

It is true that so long as manufactured goods and gold hold a price above the ordinary rates—those previous to the war—that prices of agricultural products cannot go down to what they were before the war. But as the raw material for manufactures increases, all prices will have a downward tendency.

Indeed, a great deal of the crops above estimated is without much present demand, and to more certainly approximate to the true value of the crops the prices will be again taken next summer. This is not ordinarily necessary, but great changes demand it.

It is the part of prudence with every farmer to “avoid entangling alliances” with debt for things consumed as “store goods.” Real estate, even in the cities—and much less in the country—has not been inflated as personal property, and hence the indicated coming changes will not affect it much. The table published in this report of the increased value of real and personal property in Cincinnati contains an instructive lesson, and serves as a guide to purchasers.

IMPORTS AND EXPORTS.

The more complete returns of imports and exports than published in the last monthly report are as follows, taken from the New York Journal of Commerce:

Imports at New York.

	1862.	1863.	1864.	1865.
Dry goods.....	\$56, 121, 227	\$67, 274, 547	\$71, 589, 752	\$91, 965, 138
General merchandise	117, 140, 813	118, 814, 219	144, 270, 386	130, 654, 000
Specie	1, 390, 277	1, 525, 811	2, 265, 622	2, 123, 281
Total imports.....	174, 652, 317	187, 614, 577	218, 125, 760	224, 742, 419

Exports at New York.

	1862.	1863.	1864.	1865.
Domestic produce	\$149, 179, 591	\$164, 249, 177	\$201, 855, 989	\$174, 247, 154
Foreign merchandise free.....	2, 853, 848	1, 037, 212	2, 142, 458	938, 735
Foreign merchandise dutiable..	4, 901, 383	5, 424, 579	17, 824, 095	3, 440, 410
Tot'l produce and merch'dise	156, 934, 822	170, 710, 968	221, 822, 542	178, 626, 299
Specie	59, 437, 021	49, 754, 066	50, 825, 621	30, 003, 683
Total exports	216, 371, 843	220, 465, 034	272, 648, 163	208, 629, 982

It will be remembered that the values of the *imports* are GOLD values as fixed on the merchandise at the ports from whence imported, and the values of the *exports* of produce and merchandise are CURRENCY values at the port of New York.

Referring to this fact the United States Economist of New York says:

"It may be of interest to estimate how far our exports have balanced our imports. Estimating the price of gold to have averaged one hundred and forty during the year, it would follow that the \$178,000,000 of exports of produce and merchandise would amount in specie to \$128,000,000, to which add the \$30,000,000 export of specie, and the total exports would be equal to \$158,000,000. It would thus appear that the exports have fallen sixty-six millions in gold below the imports.

"It is a fact never to be lost sight of in estimating our commercial relations with Europe that our importations during the war years have not been paid for, as formerly, with products, but to a very material extent with credits of one form or another. It may be reasonably estimated that since the commencement of the war Europe has received from us not less than \$350,000,000 of various kinds of securities, or possibly \$400,000,000. This creates against us an additional annual interest of about \$25,000,000, to be paid in products to Europe."

Since the publication of these reports first commenced, especially in 1863, when individual extravagance pervaded the whole country, and especially its city society, we again and again called attention to these excessive imports, foreseeing as we did the result now pointed to by the Economist.

If we regard the great necessity of husbanding our specie, in order to return to specie payments at as early a day as possible and under the most favorable circumstances, then the export of specie should be regarded as an evil not less than the export of our national securities. If so, then the foreign trade for 1865 will present the following balance :

Import of dry goods.....	\$91, 965, 138	
Import of general merchandise.....	130, 654, 000	
	<hr/>	\$222, 619, 138
Export of domestic produce and foreign merchandise.....	178, 626, 299	
Deduct forty per cent. discount to reduce it to gold value.....	51, 444, 374	
	<hr/>	127, 181, 925
		<hr/>
		95, 437, 213
Deduct gold imported		2, 123, 281
		<hr/>
		93, 313, 932
		<hr/>
This balance has been paid as follows :		
By specie exported from New York.....	\$30, 003, 683	
By specie exported from San Francisco to foreign ports.....	24, 724, 838	
	<hr/>	\$54, 728, 521
Leaving to be paid off by our bonds, &c.....		38, 585, 411
		<hr/>
		<hr/>

Custom-house receipts at New York for 1862-'63-'64-'65.

Months.	1862.	1863.	1864.	1865.
January	\$3, 351, 657 22	\$4, 127, 906 82	\$6, 180, 536 09	\$4, 231, 737 47
February	3, 565, 063 83	3, 590, 713 97	7, 474, 027 93	4, 791, 247 10
March	4, 626, 862 86	4, 544, 460 13	7, 659, 770 47	5, 392, 099 26
April	4, 149, 952 36	3, 957, 197 57	13, 982, 555 60	6, 309, 994 34
May	4, 704, 924 62	3, 873, 865 42	3, 855, 186 46	8, 133, 423 06
June	4, 664, 927 19	3, 738, 934 06	3, 311, 148 43	7, 837, 075 84
July.....	7, 211, 817 68	4, 912, 718 49	3, 585, 848 44	9, 778, 276 65
August	4, 762, 581 54	6, 296, 735 58	6, 237, 361 17	13, 113, 689 50
September	5, 239, 045 50	7, 270, 543 65	4, 084, 492 54	12, 929, 615 64
October	4, 309, 419 87	6, 238, 943 46	3, 670, 188 38	10, 973, 513 01
November	3, 003, 270 23	5, 075, 846 24	3, 455, 156 53	9, 933, 483 76
December	2, 664, 593 82	5, 248, 189 03	3, 440, 852 67	8, 348, 750 41
Total.....	52, 254, 116 72	58, 886, 054 42	66, 937, 127 71	101, 772, 905 94

Shipments of specie from San Francisco.

[From the San Francisco Mercantile Gazette.]

Years.	East'n ports.	England.	China.	Panama.	Other ports.	Total.
1854	\$16,533,166	\$3,781,080	\$965,887	\$204,592	\$560,908	\$52,045,633
1855	38,730,564	5,182,156	889,675	231,207	128,129	45,161,731
1856	39,895,294	8,666,289	1,308,852	253,268	573,732	50,697,434
1857	35,531,778	9,347,743	2,993,264	410,929	692,978	48,976,692
1858	35,891,236	9,265,739	1,916,007	299,265	175,779	47,584,026
1859	40,146,437	3,910,930	3,100,756	279,949	202,390	47,640,462
1860	35,719,296	2,672,936	3,374,680	300,819	258,185	42,325,916
1861	32,628,011	4,061,779	3,541,279	349,769	95,920	40,676,758
1862	26,194,035	12,950,140	2,660,754	434,508	322,324	42,561,761
1863	10,389,330	28,467,256	4,206,370	2,503,296	505,667	46,071,920
1864	12,316,122	34,436,423	7,888,973	378,795	686,888	55,707,201
1865	20,583,390	15,432,639	6,963,522	1,224,845	1,103,832	45,308,228
Total..	375,558,659	138,175,110	39,810,019	6,871,242	5,306,732	565,721,762

American mode of returning to specie payments.

Movement of gold at New York in January, 1866 :

Imported from foreign ports	\$72,771
Received from California	1,487,967
Total receipts	1,560,738
Exported to foreign ports	2,706,336
Loss in January	1,145,598

Movements of gold.

	1862.	1863.	1864.	1865.
Gold received from California	\$25,010,116	\$12,207,320	\$12,907,803	\$21,531,781
Gold imported from foreign countries	1,390,277	1,528,279	2,265,522	2,137,016
Gold exported to foreign countries	59,437,021	49,754,056	50,803,122	37,624,584
Gold paid for customs	52,254,117	58,886,054	66,937,128	101,772,906
Gold interest paid at treasury			33,126,874	40,304,279
Gold in banks and sub-treasury in December of each year	38,154,379	36,847,190	28,961,268	50,694,027
Gold shipped from San Francisco to all places	42,561,761	46,071,920	55,707,201	45,308,228

Valuation of property in Cincinnati.

Years.	Real estate.	Personal property.	Total.
1855	\$60,335,932	\$24,994,948	\$85,330,880
1856	60,701,267	20,795,203	81,496,460
1857	61,340,971	25,104,120	86,445,091
1858	62,681,602	26,051,151	88,732,753
1859	63,746,316	29,292,788	93,039,104
1860	61,428,917	30,532,458	91,961,375
1861	62,077,837	30,313,411	93,391,248
1862	63,503,296	29,707,861	93,211,157
1863	61,441,532	35,932,561	100,374,093
1864	65,385,774	49,809,574	115,195,348

The foregoing table is valuable in showing the great difference in the advance of value in the real and personal property. This difference is in part occasioned by the large business of Cincinnati during the war, but chiefly by the inflation of prices by the currency.

Export of provisions from the United States to Great Britain.

Years.	Beef.		Pork.		Cut meats.	Lard.	Butter.	Cheese.
	<i>T'ces.</i>	<i>Bbls.</i>	<i>Tierces.</i>	<i>Barrels.</i>	<i>Pounds.</i>	<i>Pounds.</i>	<i>Pounds.</i>	<i>Pounds.</i>
1864..	77,298	5,534	2,277	37,095	176,180,700	55,671,900	21,610,300	39,075,400
1865..	73,815	4,021	20	18,152	56,350,900	7,012,500	8,130,100	38,877,900

To the continent.

1864..	1,253	6,790	.....	13,995	22,860,200	53,814,400	2,675,600	1,085,400
1865..	326	3,813	.....	1,314	14,500	555,300	24,400	16,400

All other foreign ports.

1864..	199	41,929	23	209,003	7,859,800	24,802,900	5,616,800	2,946,500
1865..	391	37,247	82	125,597	4,955,800	19,632,000	3,625,300	1,523,600

Total.

1864..	78,750	54,253	2,300	260,093	206,900,700	134,289,200	29,902,700	43,107,300
1865..	74,532	14,081	102	145,063	61,321,200	27,197,800	11,779,800	40,417,900

COTTON CROP OF ILLINOIS.

The following were the shipments of cotton from nine stations on the Illinois Central railroad :

	<i>Pounds.</i>
1862	6,770
1863	91,597
1864	384,480
1865	1,581,400

EXPORTS AND PRICES OF FARM PRODUCE.

Exports from New York of the leading agricultural products from January 1, 1866, to February 27, compared with those for the same time in 1865, and their prices in New York and Chicago.

Articles.	1866.	1865.	Prices in New York Feb. 27, 1866.	Prices in Chicago Feb. 18, 1866.
Wheat flour barrels..	166,728	241,772	\$6 60 to \$10 75	\$4 00 to \$10 25
Rye flour do.....	286	397	-----	3 75 to 4 50
Corn meal..... do.....	14,802	26,110	3 70 to 4 35	-----
Wheat bushels..	67,700	114,328	1 62 to 2 32	79½ to 1 22½
Corn do.....	849,925	77,846	-----	35 to 37½
Rye do.....	50,248	141	-----	46 to 49½
Barley..... do.....	-----	-----	90	90 to 1 30
Oats do.....	88,265	14,848	51 to 57	19½ to 23
Peas do.....	10,073	10,196	-----	50 to 1 00
Cotton bales..	83,960	7,247	41	-----
Hay do.....	9,075	6,173	80 to 95	50 to 60
Hops do.....	110	5,926	10 to 65	30 to 50
Leaf tobacco ... lhds..	8,547	18,925	7 to 21	-----
Leaf tobacco ... packages.	8,752	17,373	-----	-----
Manuf. tobacco.. pounds.	366,251	1,226,140	-----	-----
Petroleum gallons..	4,721,768	1,639,787	44	-----
Pork barrels..	11,928	25,151	28 00 to 28 50	23 50 to 28 75
Beef do.....	3,208	8,293	16 00 to 24 00	14 00 to 19 00
Beef tierces..	6,758	13,267	-----	-----
Cut meats pounds..	5,460,196	9,653,540	11½ to 19	10 to 17
Butter do.....	463,132	4,375,066	25 to 50	19 to 28
Cheese do.....	2,177,742	7,622,145	16 to 22	15 to 19
Lard do.....	3,911,470	6,888,277	16 to 19½	16½ to 17½
Tallow do.....	2,182,914	5,779,277	12 to 12½	11 to 11½
Wool, fleece..... do.....	-----	-----	52½ to 73½	43 to 50
Sorghum molasses.. galls..	-----	-----	-----	45 to 50

AGRICULTURAL STATISTICS OF UTAH.

It is with no ordinary pleasure that we present the following tables of the agricultural statistics of this Territory. Our correspondents there have ever been prompt and painstaking, and have interested us in the progress of an agriculture in the midst of the Rocky mountains, and so different from that of the Atlantic States. What will much interest all is the table relative to irrigation. We have here an expenditure of \$1,766,939 to irrigate 153,949 acres, being \$11 50 per acre. Washington county, which is the most southern one in Utah, lying between the 37th and 38th degrees of latitude, raised last year 384 acres of cotton and 92 acres of grapes, yielding 5,200 pounds of grapes. The energy that is accomplishing so much is worthy of all commendation.

COUNTIES.	Number of acres in wheat.	Average yield per acre in bushels.	Number of acres in barley.	Average yield per acre in bushels.	Number of acres in corn.	Average yield per acre in bushels.	Number of acres in sorghum.	Average yield per acre in gallons.	Number of acres in potatoe.	Average yield per acre in bushels.	Number of acres in carrots.	Average yield per acre in bushels.	Number of acres in beets.	Average yield per acre in bushels.	Number of acres in sundry small crops.	Average yield per acre in bushels.	Number of acres in cotton.	Average yield per acre in pounds.	Number of acres in meadow.	Average yield per acre in tons.
Beaver.....	1,751	21	112	20	15	22	156	91	150	62	5	150	54	281	12	20	.....	.....	1,108	1
Box Elder.....	1,845	30	308	33	288	44	156	225	207	207	54	315	54	386	50	.....	.....	.....	1,435	1
Cache.....	10,278	23	838	29	1,750	34	245	45	1,118	178	79	364	46	383	837	.....	.....	.....	5,435	1
Davis.....	1,047	26	291	27	402	32	351	107	116	101	18	250	9	283	12	300	.....	.....	1,618	1
Great Salt Lake.....	3,999	23	633	28	1,108	28	496	90	639	138	102	336	52	303	304	.....	.....	.....	2,170	1
Iron.....	2,315	21	164	25	1,271	18	100	406	406	68	5	600	7	500	130	.....	.....	.....	695	1
Juab.....	1,000	25	3	25	250	30	100	75	125	100	2	500	2	200	100	.....	.....	.....	1,590	1
Kane.....	416	17	6	40	423	15	156	83	125	112	14	500	1	200	36	.....	.....	.....	1,590	4
Millard.....	2,311	21	162	28	230	31	103	60	58	100	2	500	3	200	90	.....	.....	.....	1,635	1
Morgan.....	1,272	27	127	35	9	27	.....	.....	112	160	10	257	3	200	27	.....	.....	.....	1,940	1
Prater.....	880	15	10	.....	50	.....	.....	.....	30	.....	3	.....	.....	.....	10	.....	.....	.....	925	1
Rielland.....	2,030	40	550	40	470	40	.....	.....	175	300	94	300	59	300	170	.....	.....	.....	94,700	1
Sanpete.....	10,122	20	80	22	115	20	545	68	545	68	62	135	59	115	153	.....	.....	.....	9,350	1
Sevier.....	1,195	22	6	30	202	37	3	.....	44	87	5	300	3	250	10	.....	.....	.....	5,500	1
Summit.....	700	28	37	37	102	40	.....	.....	16	150	3	350	4	200	.....	.....	.....	.....	530	2
Touole.....	700	25	10	50	490	24	18	70	55	212	17	566	19	425	35	.....	.....	.....	7,811	1
Utah.....	7,354	19	818	27	1,107	17	522	82	74	180	10	400	9	112	324	.....	.....	.....	1,177	1
Wasatch.....	988	22	25	25	297	38	1	15	74	180	2	250	24	190	12	.....	.....	.....	1,672	2
Washington.....	790	18	19	15	926	23	499	74	99	185	15	337	8	294	23	.....	.....	.....	2,873	1
Weber.....	3,223	21	462	30	1,035	20	239	78	221	127	12	283	3	205	64	.....	.....	.....	.....	.....
Total.....	55,533	23	4,681	30	9,502	31	2,888	79	4,832	139	454	344	305	265	2,421	115	551	151	65,044	18

* Three acres of rye and one of hemp.

County table showing the expense of the main irrigating canals and the amount of land irrigated by the same in Utah Territory.

Counties.	No. of canals.	Mean length.	Mean width.	Mean depth.	Mean inclination per mile.	Total length.	Cost of construction, including dams.	No. of acres irrigated.	Estimated cost of canals in progress.
		<i>Rods.</i>	<i>Ft. in.</i>	<i>Ft. in.</i>	<i>Ft. in.</i>	<i>Rods.</i>			
Beaver	3	1,706	5 0	2 0	15 8	5,120	\$36,060	3,321	-----
Box Elder	7	845	6 0	2 6	48 0	5,920	115,000	3,588	-----
Cache	44	1,130	5 6	1 10	4 6	49,760	323,640	29,329	\$58,000
Davis	8	950	3 3	1 6	32 6	7,600	30,500	3,754	500
Great Salt Lake ..	29	1,793	7 8	2 2	19 10	48,422	374,962	18,574	512,000
Iron	14	720	5 7	2 4	35 10	10,080	62,400	4,259	5,000
Juab	1	2,240	8 0	3 6	25 0	2,240	33,000	3,319	-----
Kane	21	866	2 8	1 8	7 4	18,200	42,775	1,604	3,000
Millard	10	1,680	6 9	2 7	20 0	16,800	42,530	6,117	1,000
Morgan	10	1,136	5 4	1 6	7 4	11,360	21,800	2,946	7,000
Pi-Ute	1	800	5 0	3 0	12 0	800	2,000	1,440	2,500
Richland	16	687	3 5	1 6	3 1	11,000	15,400	4,133	42,000
Sanpete	30	1,127	6 10	2 4	23 5	33,812	145,197	23,303	-----
Sevier	3	1,673	6 8	2 2	3 8	5,020	13,661	1,993	500
Summit	5	895	5 0	2 9	6 6	3,580	9,300	1,982	11,090
Tooele	4	2,040	5 4	1 8	37 6	8,160	33,000	2,217	-----
Utah	31	1,252	7 1	1 10	11 1	38,808	167,182	23,245	144,430
Wasatch	6	600	4 5	1 10	9 2	3,600	3,775	5,861	20,300
Washington	19	1,296	5 3	2 4	16 7	24,640	142,481	3,875	89,500
Weber	15	1,929	7 3	2 4	7 10	28,940	152,276	9,089	1,000
Total	277	1,268	5 6	2 2	17 4	333,862	1,766,939	153,949	897,730

Horticultural statistics, Utah Territory, 1865.

County.	No. of acres in apples.	Average yield per acre in bushels.	No. of acres in peaches.	Average yield per acre in bushels.	No. of acres in grapes.	Average yield per acre in pounds.	No. of acres in other kinds of fruit.	Average yield per acre in bushels.
Box Elder	11	-----	92	175	5	-----	25½	250
Cache	134	-----	7	-----	-----	-----	66	20
Davis	38¼	225	63	163	-----	-----	8½	-----
Great Salt Lake ..	203	145	171	150	2	300	56	76
Iron	8	-----	3	-----	-----	-----	2	100
Juab	20	-----	3	300	-----	-----	16	200
Kane	37	-----	52	87	-----	-----	25	-----
Millard	57	-----	10	52	75	-----	10	100
Sanpete	7	-----	6	-----	-----	-----	5	-----
Tooele	17	92	120	233	-----	-----	30	500
Utah	82	-----	116½	232½	1½	-----	9½	-----
Washington	52	20	239	366	92	5,200	17	50
Weber	51	33	75	81	2	-----	18½	12
Total	717½	103	962½	184	177½	2,750	289	145

State War Debts, &c.

The following table exhibits the war debts of the States as reported to Congress; the amount per man (\$55) proposed by the committee in Congress to be repaid to the States; the number of three-year men furnished by each State; the number to each representative in Congress, and the amount of the debt or bonus to each man:

States.	War debt.	\$55 for each man furnished.	No. of men (three-years') furnished.	No. to each congressional representative.	Debt for each man.
Maine.....	\$12,632,580	\$3,112,725	56,595	11,337	\$223 21
New Hampshire.....	13,125,000	1,695,485	30,827	10,279	409 54
Vermont.....	8,806,759	1,587,860	29,052	9,634	303 13
Massachusetts.....	47,809,827	6,811,420	123,844	12,384	386 05
Rhode Island.....	6,500,772	983,290	17,878	8,922	363 62
Connecticut.....	17,386,151	2,778,270	50,514	12,628	344 18
New York.....	111,005,953	20,993,280	381,696	12,313	290 82
New Jersey.....	26,786,421	3,068,175	55,785	11,157	480 18
Pennsylvania.....	53,527,395	14,715,690	267,558	11,148	200 06
Delaware.....	1,140,000	566,665	10,303	10,393	110 60
Maryland.....	8,658,458	2,238,060	40,692	8,136	212 78
West Virginia.....	2,000,000	1,520,915	27,653	9,217	72 32
Ohio.....	64,867,813	13,088,680	237,976	12,525	272 58
Indiana.....	22,334,967	8,375,565	152,283	13,844	146 66
Illinois.....	30,000,000	11,698,170	212,694	15,192	142 05
Michigan.....	12,000,000	4,447,575	80,865	13,442	148 39
Wisconsin.....	12,240,795	4,344,175	78,985	13,164	155 00
Minnesota.....	2,518,361	1,082,125	19,675	9,838	128 00
Iowa.....	2,200,000	3,750,010	68,182	11,344	32 27
Missouri.....	9,446,575	4,740,560	86,192	9,577	109 60
Kentucky.....	2,150,537	3,869,140	.....	.....	.....
Kansas.....	818,000	1,025,970	18,654	18,654	43 90
Tennessee.....	.....	664,235	.....	.....	.....
California.....	.....	409,805	.....	.....	.....
Oregon.....	.....	31,955	.....	.....	.....
Nevada.....	.....	11,880	.....	.....	.....
Washington Territory.....	.....	49,225	.....	.....	.....
Nebraska Territory.....	.....	20,000	.....	.....	.....
Colorado Territory.....	.....	96,910	.....	.....	.....
Dakota Territory.....	.....	9,955	.....	.....	.....
New Mexico Territory.....	.....	55,605	.....	.....	.....
District of Columbia.....	.....	632,830	.....	.....	.....
Total.....	467,954,364	118 487,105	.....	.....	.....

DYER'S MADDER.

The following facts, bearing upon the adaptability and profit of madder culture in this country, were communicated to the Senate Committee on Agriculture, at its request :

DEPARTMENT OF AGRICULTURE,
Washington, D. C., February 28, 1866.

SIR: In response to your request for "all statistics upon the present cultivation of the madder plant in the United States and elsewhere, the demand for it, the climate and soil suited to its growth," and any suggestions of "such measures as in your (my) opinion will promote the object of this inquiry," I beg leave to make the following statements :

With the extension of manufactures in this country the demand for dyers' madder (*Rubia tinctoria*) is increased; and it becomes an interesting inquiry, whether the million of dollars, (or it may be two millions or more annually in the future,) now paid to foreign producers, may not be saved to the industry of the country.

IMPORTS.

Twenty years ago the imports of madder were so considerable as to induce experiments in its culture and preparation. From a statement made in 1848 there was imported into New York in eighteen months from January 1, 1845, and into Boston, Philadelphia, and Baltimore, in twenty-one months from the same date, an aggregate of 16,804,715 pounds, costing \$1,620,415, or about ten cents per pound.

In the statistics of the commerce and navigation division of the treasury, from which the following table is compiled, the quantity given for the first three years (though the class is not specified) is presumed to be "ground or prepared."

Statement of imports of madder into the United States from 1855 to 1864 inclusive.

Years.	Root.		Ground or prepared.		Extract.		Total.
	Pounds.	Dollars.	Pounds.	Dollars.	Pounds.	Dollars.	Dollars.
1855.....			10,652,548	851,979			851,979
1856.....			20,847,472	1,671,805			1,671,805
1857.....			14,113,425	1,375,472			1,375,472
1858.....		78,144	643,642			40,567	762,353
1859.....		44,138		2,156,403		152,808	2,353,349
1860.....		35,911		784,671		585,698	1,370,280
1861.....	9,911	806	1,543,741	174,645	392,256	96,926	*280,280
1862.....	248,533	17,955	6,283,822	615,713	590,992	118,451	752,119
1863.....			5,752,822	525,419	1,236,317	†249,867	777,802
1864.....	531,370	46,313	7,491,931	542,174		242,385	830,872
Total.....							11,026,311

* Including India madder.

† Including extract of logwood also.

The largest portion of this importation comes from France. Holland, Belgium and Turkey furnish much of the remainder. These prices are those

of the countries from which the import comes, and represent gold values. The present quotations in New York are: Dutch, $8\frac{1}{2}$ cents; French, $9\frac{1}{2}$ to 10 cents in gold.

It is stated that the demand for madder is less than formerly, in proportion to the amount of manufacturing done, in consequence of the substitution of aniline dyes extracted from coal-oil or petroleum. And the price has been somewhat reduced at the same time. Twenty years ago the price was about ten cents per pound. In 1864 the root was bought abroad, in gold, for eight cents seven mills, and the prepared for seven cents two mills per pound. In currency, however, in our ports it must have commanded at that time little short of twenty cents. The same fact must be taken into consideration, to some extent, in estimates of probable prices and profits in the future.

CLIMATE AND SOIL.

A mild climate is essential to the best growth and highest development of its peculiar properties; yet it is cultivated throughout a wide range of climate—on the East India coasts, the shores of the Mediterranean, and upon the northern German coasts. All of our middle, southern, and western States afford a climate suitable for the culture.

The roots, which are long and crawling, ligneous, and divided into branches, are yellowish in color and of an astringent taste. In light soils they are small and of a red orange color when dried in the air. In soft, light, rich lands they are grayish in color, but dusky red when powdered. In France the root is extensively cultivated, especially in the department of *Vaucluse*, where an extensive area, formerly swamps, and lightly esteemed by the proprietors, has been drained, and now commands a high price, and produces an excellent quality of madder. These lands contain from fifty to sixty per cent. of chalk. Undrained or badly drained soils are entirely unsuitable to its growth; and, therefore, heavy uplands, tenacious with a stiff clay, are found to be unprofitable for such a crop. River bottoms, not clayey, and especially "second bottoms," which contain a rich, light loam abounding in humus, are employed to advantage.

CULTURE IN ZEALAND.

In Zealand it is grown upon alluvial bottoms deposited by the sea, which are highly alkaline and silicious, and produce a root of yellowish color. It is propagated there by shoots or sets planted in May, in rows two feet apart. Clean culture by weeding and covering in autumn is pursued, and the roots are taken up and dried by means of stoves, and are a second time dried before being ground.

The yield in Zealand averages 2,350 pounds of powdered madder. The winter being severe, the roots are oftentimes taken up at eighteen months' old. The product is less in such case, but the risk and trouble of a second wintering is avoided.

CULTURE IN FRANCE.

In the French department of *Vaucluse* it is grown from seed in a chalky alluvian deposit, and is sown in beds five or six feet wide, with a space of eighteen inches between the beds. In November of the first year, the young plants are covered two or three inches with earth taken from between the beds. In the second and third years the beds are carefully weeded, and the foliage cut for forage when in flower. The roots are dug in August or September of the third year, and simply cleaned if the earth is dry, but washed if so damp as to adhere. In digging, the earth is loosened by a spade or fork, and the roots are drawn, piled, dried in the open air, and packed in bales.

The Department of Agriculture has received, through the courtesy of the Secretary of State, several communications relative to the French mode of culture, forwarded by Consul Geo. W. Van Horne, from Marseilles, prepared by practical operators of that vicinity.

The following extracts are from the statement of Messrs. Imer Brothers & Leenhardt:

"Composition of the best soils :

Sand.....	40.8
Lime.....	2.3
Clay.....	53.5
Humus.....	3.4

100

"Of an inferior quality :

Sand.....	22
Lime.....	3.5
Clay.....	73
Humus.....	1.5

100

"*Seed*.—The seed should be perfectly dry and free from fermentation. The seed of the paluds is much better than that of the roses. One may preserve it in a good state for two years by keeping it in a dry place and subjecting it to a thorough ventilation.

"*Sowing*.—A ridge of eight or nine inches wide and one and a half inch deep is made with a spade and sowed. At a distance of two inches another ridge, of the same size, is run, having care to cover the seed of the first ridge with the earth taken from the second, and so on to the completion of the third ridge. These three ridges form a platband about three feet wide, separated from each other by a space one and a half feet in width, left as a path for the laborer in weeding. From this path also is taken the earth to cover the plants in autumn, when the leaves are dead. For the sake of economy these paths are sometimes planted with potatoes, beets, &c., but each extra plant should be put far apart.

"If the earth is well pulverized, instead of the seed being sown, one had better plant roots of the preceding year's growth, as crops obtained from the plants display much finer roots than when raised directly from the seed. But if the ground is not friable, but hard and clayey, the plants would not grow well, and possibly would not take at all. In this case seed must be sown. An acre of madder produces seed sufficient for three or four acres of sowing.

"*Transplanting*.—For the transplanting of roots, as indicated above, ridges, about three feet wide and three inches deep, are made, and the roots laid therein just free from each other; and between these ridges an uncultivated space is left, as in sowing.

"*Weeding*.—The seed is sown, or the roots transplanted, in March, and great care must be observed in keeping the land free from weeds; the paths, also, being attended to in this respect.

"*Irrigation*.—When the land is dry, from drought, it will be necessary to water it by irrigating the intermediate paths, if possible. Slimy water is preferable to clear water for this purpose.

"*Covering*.—In autumn, when the plants lose their verdure and turn to a grayish tint, they must be covered with one and a half or two inches of earth

taken from the paths. In the following spring the clods must be broken with a rake.

"Digging."—The madder cultivated in strong, dry soils may be removed in three years, and from wet lands in eighteen months. Thus the madder of the mountain requires three years to mature well, while the paluds may be dug in from one and a half to three years. The roots should not be extracted until the seed has been produced. Some cultivators, who are pressed for the moneyed results of their labors, do not wait for the seed; but the madder thus prematurely gathered is of an inferior quality.

"The ramifications of the stalk are first cut, dried, and threshed for the seed; the straw, or refuse, is saved as fodder for cattle. The roots are then dug with the spade or fork, and as their length will average one and a half feet, it can be seen that their removal leaves the land in a prepared state for some other crop.

"Drying."—When dug they are spread on the aire, (usually a level spot of ground paved with brick,) where they are dried by the action of the sun and air. When the larger roots may be easily broken, they should be heaped up, so that the smaller tips (*pettis couts*) may become thoroughly dry. Care must be taken that this place be free from dampness.

"Trituration."—When the roots are sufficiently dry they are embaled and sent to the manufacturers, where they are stored in a well-ventilated granary. It is taken from the granary in proportion to each day's demand, and, having caused it to lose 15 to 16 per cent. of water in a drying oven, it is passed under a large mill-stone and ground to powder. The bolters keep the coarser portion for a second grinding."

The following table of expenses (recently received) is from the statement of Mr. A. de Speyr, of Avignon. It is derived from many years' experience in the cultivation of madder in the department of Vaucluse:

Expenses per hectare (two and a half acres) by manual labor.

FIRST YEAR.

	Soft soil, (paluds.)	Compact soil.
Days in winter for breaking or ploughing.	44 at frs. 2 = 88.00	90 at frs. 2 = 180.00
Manure, (dung,) wagons of.....	22 at frs. 20 = 440.00	22 at frs. 20 = 440.00
Carting.....	22 at frs. 6 = 132.00	22 at frs. 6 = 132.00
Seed, kils.....	85 at frs. 4 = 34.00	34.00
Sowing, days' work of men and women ..	8 at frs. 3 = 24.00	24.00
Weeding, days' work of women.....	66 at frs. 1 = 66.00	66.00
Covering in summer three times.....	34.00	34.00
Covering in winter, fixed price.....	24.75	24.75
Rent of land.....	165.00	132.00
	1,031.75	1,090.75
Interest at 10 per cent.....	103.17	109.00
	1,134.92	1,199.75

SECOND YEAR.

	Soft soil, (paluds.)	Compact soil.
Weeding.....	Frs. 22.00	Frs. 22.00
Covering, one in summer.....	12.00	12.00
Covering for winter.....	24.75	24.75
Rent of land.....	165.00	132.00
	<hr/> 223.75	<hr/> 190.75
Interest.....	22.37	19.07
Interest first year.....	101.62	104.75
	<hr/> 347.74	<hr/> 314.57

THIRD YEAR.

	Soft soil, (paluds.)	Compact soil.
Harvest, days' work.....	165 at frs. 5 = 645.00	244 at frs. 3 = 732.00
Drying and packing, quintals, 110 lbs....	77 at frs. 1.58 = 121.66	55 at frs. = 86.90
Rent of land.....	165.00	132.00
	<hr/> 781.66	<hr/> 950.90
Int. of capital of first year for six months.	51.58	54.50
Interest of capital of second year.....	11.18	9.53
	<hr/> 844.42	<hr/> 1,014.93

RECAPITULATION.

	Soft soil, (paluds.)		Compact soil.	
	<i>Francs.</i>	<i>Dollars.</i>	<i>Francs.</i>	<i>Dollars.</i>
First year.....	1,134.92	217 90	1,199.75	230 35
Second year.....	347.74	66 75	314.57	60 39
Third year.....	844.42	162 12	1,014.93	194 08
	<hr/> 2,327.08	<hr/> 446 78	<hr/> 2,529.25	<hr/> 485 62
Cost per quintal, (110 lbs).....	30.32	5 82	45.99	8 83

"It is found, in taking a piece of ground of great firmness and of a productive-ness of 33 quintaux of root per hectare, that the expense will amount to only 26.40 francs per quintal, (110 pounds;) whilst in lands of less tenacity there will be a yield, say, of 55 quintaux, which would reduce the cost of the first crop to 15 francs the quintal."

ITS CULTURE IN THIS COUNTRY.

The plant is found to be very hardy in this country, is entirely exempt from injury by insects, and not liable to suffer from drought in deep soils after the first season. Twenty years ago it was produced to some extent in some portions of the country, especially in Ohio. Some of the most successful cultivators

reported a product of 2,000 pounds per acre. A Mr. Joseph Swift, of Birmingham, Erie county, Ohio, for several years engaged in its production, with profitable results for a time at least. The following is a statement of one of his crops, as reported originally by Mr. M. B. Bateham :

By 2,000 pounds of madder, at 15 cents per pound.....	\$300 00
Contra.—To 100 days' work, at 75 cents.....	\$75 00
To use of land four years, at \$4 per acre.....	16 00
To grinding, packing, &c.....	9 00
	<hr/> 100 00
Leaving a profit of	<hr/> 200 00

I am unable to learn that the culture is continued in Ohio to any extent. Its cultivators have sometimes met with loss from drought soon after planting. The great length of time required for maturing the crop has been a great drawback to its cultivation, especially if coupled with ill success through drought in starting a plantation.

The soil in which the Ohio experiments were made was in most cases river bottom, not wet or liable to overflow. Good strong upland, not clayey enough to bake hard, was thought to be almost as good, and a soil impregnated with lime was found to produce the best quality.

The land was ridged up in the autumn, and in the spring received a dressing of barn-yard manure, sometimes with leaf-mould or decomposed muck in the case of uplands, previous to ploughing and harrowing. For planting, light, straight furrows were made, eight feet apart, and the roots were laid lengthwise one foot apart and covered to the depth of two inches. Ten bushels of sets were sufficient for one acre.

A cultivator was employed between the rows, with hoes along the rows as soon as the plants made their appearance, and such cultivation was continued at such intervals as to keep the surface free from weeds. The more thorough in this respect, the less labor was needed the next season.

Vacancies were filled up by lifting and dividing some of the stronger roots, when the plants were well rooted, in May or June. When twelve or fifteen inches high, the tops were bent down on each side and covered with earth, excepting the tip. This operation was continued whenever the new shoots had attained the same height as before, until the entire space between the rows was filled, with the exception of a space of two feet in the middle, which was kept clean and mellow by a single plough. This process of layering filled the whole space with roots, and left no necessity for culture the second year, with the exception of weeding and ploughing the middles. But the tops were bent down and covered to fill closely the remaining space, until it became difficult to get dirt in the ditches with which to cover. Care was exercised to keep the edges of the bed as high as the centre, to prevent the too rapid drainage of water and the danger from drought.

Washing and drying.—The roots were washed in some running stream. If none was near, they were washed in large sieves, the wire as fine as that of wheat sieves, half a bushel at a time, the roots being carefully pulled apart while washing. Two hands could thus wash 125 to 150 bushels per day. They were then spread on platforms made of tight boards, making a layer of roots four inches in depth upon each, and dried in the sun, the platforms being set up so as to incline towards the south. Five or six days of dry weather, with protection from dews at night, was found sufficient to cure it. Subsequently it was kiln-dried and ground.

Kiln-drying.—The following plan was recommended and adopted in these Ohio experiments, by which the drying was accomplished in ten or twelve

hours: "Place four strong posts into the ground, twelve feet apart one way and eighteen the other; the front two fourteen feet high and the other eighteen; put girths across the bottom, middle, and top, and nail boards perpendicularly on the outside, as for a common barn. The boards must be well seasoned, and all cracks or holes should be plastered or otherwise stopped up. Make a shed roof of common boards; in the inside put upright standards about five feet apart, with cross-pieces to support the scaffolding; the first cross-pieces to be four feet from the floor, the next two feet higher, and so on to the top. On these cross-pieces lay small poles about six feet long and two inches thick, four or five inches apart. On these scaffolds the madder is to be spread eight or nine inches thick. A floor is laid at the bottom to keep all dry and clean. When the kiln is filled, take six or eight small kettles or hand-furnaces, and place them four or five inches apart on the floor, (first securing it from fire with bricks or stones,) and make fires in them with charcoal, being careful not to make any of the fires so large as to scorch the madder over them. A person must be in constant attendance to watch and replenish the fires; (but he should be cautioned not to remain long inside, as the gas from charcoal fires is liable to cause suffocation.")

Breaking and grinding.—The roots, which are brittle when dry, were broken by threshing with flails, or passing through a bark mill or other crusher. They were ground immediately after kill-drying, otherwise they would gather dampness. After crushing, the grinding was done in a common grist-mill. It was then packed in vessels like flour, and was ready for market.

ITS CULTURE AT THE PRESENT TIME.

I have no knowledge of any persons engaged in the cultivation of madder in this country at the present time. We have a suitable climate and productive soils. The greatest obstacle to success with it seems to be the high price of agricultural labor and the scarcity of casual or irregular labor, which renders it difficult to obtain help at the precise season when required. Another reason is found in the proverbial disinclination of our people to agricultural or any other species of productive industry which requires three years to secure returns. It seems to be a remunerative crop, if it can be produced under favorable circumstances. By the selection of a proper soil and a very favorable climate, (perhaps in the southern States or in California, where its constant growth might produce an excessive yield with labor of German women or children, or Chinamen,) with system and labor-saving appliances in cultivating and preparing it, a profitable result might be secured. It is very proper and highly desirable that a fair and persistent trial should be made to overcome the difficulties which have interfered with the enterprise thus far.

If there are those who would make another effort at the present time, let them choose a southern or southwestern aspect, and select a deep, rich, sandy, and calcareous loam free from all weeds. Let it be ploughed early in the autumn, and again turned up into ridges before the winter frosts set in, so that the soil may be finely pulverized in spring, when the beds are prepared and the sets planted. The ground should be dry before planting.

As a preparation for planting, the soil should be thoroughly and deeply pulverized, and well-rotted manure well incorporated with it. The sets, taken from plantations two or three years old, should have roots four or five inches long. The roots should be dipped in a thin paste of fine rich earth and water, and set with a dibble, leaving the crown above the surface and the earth properly compacted about the roots. During the summer months clean culture is required, with hoe or cultivator, or, while the plants are young, with a light plough; and in the autumn, after the tops decay, to be earthen up for the winter, as a protection against frost.

The following extract from a note just received from Mr. M. B. Bateham, of Columbus, Ohio, formerly editor of the *Ohio Cultivator*, corroborates the views I have formed upon this subject:

"I believe the business has been entirely discontinued in Ohio, and I have no knowledge of its being practiced in any other State. The reasons for this are not from any lack of adaptedness of soil or climate, but simply because the business requires *much labor*, which must be done by hand, and can only be carried on to advantage near large towns, where Germans or other cheap laborers can be readily obtained at special times when wanted. This was the cause of the abandonment of the business by Mr. Swift and others who have tried it in Ohio. My own experiment, near Columbus, was on soil found unsuited to the purpose. It was too rich and clayey, (alluvial river bottom.) Good sandy alluvial is found well adapted to this crop. For the past few years the price of labor has been too high to encourage any one to engage in madder-growing."

Regretting that I am unable to give a more flattering view of the profit of madder culture in this country, I have the honor to be, yours respectfully,

ISAAC NEWTON, *Commissioner*.

Hon. JOHN SHERMAN,

Chairman of Senate Committee on Agriculture.

METEOROLOGY.

JANUARY, 1866.

Table showing the highest and lowest range of the thermometer, (with dates prefixed,) the mean temperature, and amount of rain, (in inches and tenths,) for January, 1865, at the following places, as given by the observers named. The daily observations were made at 7 o'clock a. m. and 2 and 9 p. m.

Place.	County.	Observer's name.	Date.	Max.	Date.	Min.	Mean.	Rain.
MAINE.								
Steuben	Washington	J. D. Parker	20	44	7	—20	16.5	2.61
Lee	Penobscot	Edwin Pitman	1, 20	36	7	—28	12.3	2.40
West Waterville....	Kennebec	B. F. Wilbur	1, 18	40	7	—23	15.0	2.39
Gardiner	do	R. H. Gardiner	1	40	7	—18	14.1	1.63
Lisbon	Androscoggin	Asa P. Moore	7	—18	7	—18	2.05	
Webster	do	Almon Robinson	1	39	7, 8	—16	15.1	
Standish	Cumberland	John P. Moulton	1	40	7	—17	17.3	1.48
Cornish	York	Silas West	10	38	8	—18	16.9	1.45
Cornishville	do	G. W. Guptill	1, 10	37	7	—16	17.3	2.10
Belfast	Waldo	Geo. E. Brackett	7	—24				
NEW HAMPSHIRE.								
Stratford	Coos	Branch Brown	20	39	7	—33	10.5	3.00
Shelburne	do	Fletcher Odell	1	42	8	—18	17.2	2.40
North Barnstead....	Belknap	Chas. H. Pitman	1, 10	40	8	—15	20.5	1.00
Claremont	Sullivan	Stephen O. Mead	13, 18	42	8	—20	17.4	
Do	do	Arthur Chase	19, 20					
Do	do	Arthur Chase	1, 18	40	8	—20	17.1	1.60
VERMONT.								
Lunenburg	Essex	H. A. Cutting	18, 20	37	7	—31	14.5	1.55
Craftsbury	Orleans	Jas. A. Paddock	20	35	8	—25	11.7	1.96
Randolph	Orange	Charles S. Paine	1	40	7	—20	17.9	1.72
Middlebury	Addison	H. A. Sheldon	20	44	7	—21	15.3	1.20
Brandon	Rutland	Harmon Buckland	20	44	7	—20	18.1	0.71
MASSACHUSETTS.								
Topsfield	Essex	A. M. Merriam	1	46	8	—15	26.7	2.02
Georgetown	do	Henry M. Nelson	20	43	8	—16	21.0	
Newbury	do	Jno. H. Caldwell	20	45	8	—16	21.5	
Cambridge	Middlesex	A. Fendler	18	43	8	—18	22.0	1.31
New Bedford	Bristol	Samuel Rodman	20	49	8	—12	25.7	2.17
Worcester	Worcester	Joseph Draper, M.D.	19	44	8	—15	24.0	2.56
Mendon	do	Jno. G. Metcalf, M.D.	13	52	8	—17	26.3	7.00
Amherst	Hampshire	Prof. E. S. Snell	18	40	8	—15	21.9	1.36

Table showing the range of the thermometer, &c., for January—Continued.

Place.	County.	Observer's name.	Date.	Max.	Date.	Min.	Mean.	Rain.
MASSACHUSETTS—Continued.								
Springfield	Hampden	J. Weatherhead	13	48	8	—21	22.9	1.52
Westfield	do	Rev. E. Davis	13	46	8	—16	24.9	1.74
Richmond	Berkshire	Wm. Bacon	20	46	8	—18	19.6	3.25
Williams College	do	Prof. A. Hopkins	20	45	8	—18	19.0	1.01
RHODE ISLAND.								
Newport	Newport	Wm. H. Crandall	18, 19	46	8	—6	26.6	3.37
CONNECTICUT.								
Pomfret	Windham	Rev. D. Hunt	19, 20	44	8	—19	22.1	0.73
Columbia	Tolland	Wm. H. Yeomans	13	52	8	—20	25.6	1.40
Colebrook	Litchfield	Charlotte Rockwell	13	48	8	—25	18.7	.....
Groton	New London	Rev. E. Dewhurst	20	50	8	—15	.....	.....
NEW YORK.								
Moriches	Suffolk	Miss N. Smith	20	49	8	—10	30.0	2.59
South Hartford	Washington	G. M. Ingalsbe	20	46	8	—19	19.0	1.18
Fishkill Landing	Dutchess	Wm. H. Denning	20	46	8	—13	21.3	0.99
Garrison's	Putnam	Thomas B. Arden	18, 20	43	8	—16	22.0	2.35
Throg's Neck	Westchester	Miss E. Morris	13	43	8	—14	24.7	1.57
Deaf & Dumb Inst.	New York	Prof. O. W. Morris	13, 20	49	8	—13	29.6	2.56
Columbia College	do	Prof. Chas. A. Joy	20	45	8	—14	25.8	2.83
Newburg	Orange	James H. Gardiner	13	52	8	—15	23.7	1.53
Gouverneur	St. Lawrence	Cyrus H. Russell	20	48	7	—28	11.3	1.55
South Trenton	Oneida	Storrs Barrows	20	42	8	—22	15.4	2.85
Oneida	Madison	S. Spooner, M. D.	20	51	8	—20	19.6	1.80
Theresa	Jefferson	S. O. Gregory	1	38	15	—23	13.6	2.25
Depauville	do	Henry Haas	20	54	7	—16	16.3	3.32
Oswego	Oswego	Wm. S. Malcolm	20	50	8	—8	21.1	1.14
Palermo	do	E. B. Bartlett	20	46	8	—20	18.5	1.56
Skaneateles	Onondaga	W. M. Beauchamp .....	.....	.....	8	—19	.....	.....
Baldwinsville	do	John Bowman	20	53	7, 8	—18	19.0	0.70
Nichols	Tioga	Robert Howell	20	50	7	—18	22.6	.....
Geneva	Ontario	Rev. Dr. W. D. Wilson	20	48	8	—12	22.1	0.82
Rochester	Monroe	M. M. Mathews, M. D.	20	50	7, 8, 9	—3	22.7	1.48
Do	do	Prof. C. C. Dewey	20	51	9	—4	21.7	1.48
Buffalo	Erie	William Ives	19	55	7	—6	23.3	1.46
Jamestown	Chautauqua	Rev. S. W. Roe	19	56	8	—17	19.8	1.10
NEW JERSEY.								
Paterson	Passaic	William Brooks	13	48	8	—14	26.1	1.33
Newark	Essex	Wm. A. Whitehead	13	46	8	—13	25.8	1.74
New Brunswick	Middlesex	Geo. H. Cook	13	48	8	—12	26.1	1.65
Trenton	Mercer	E. R. Cook	20	49	8	—12	.....	3.02
Burlington	Burlington	John C. Deacon	13	50	8	—8	27.7	2.00
Moorestown	do	Thomas J. Beans	13	52	8	—12	27.3	2.68
Mount Holly	do	M. J. Rhee, M. D.	20	56	8	—9	28.8	.....
Haddonfield	Camden	James S. Lippincott	20	47	8	—12	27.4	2.08
Greenwich	Cumberland	R. C. Sheppard	19, 20	52	8	—9	29.5	2.29

Table showing the range of the thermometer, &c., for January—Continued.

Place.	County.	Observer's name.	Date.	Max.	Date.	Min.	Mean.	Rain.
PENNSYLVANIA.								
Nyces.....	Pike.....	John Grathwohl....	19	62	8	—23	20.2	1.26
Fallsington.....	Bucks.....	Ebenezer Hance....	13	50	8	—9	30.0	2.20
Philadelphia.....	Philadelphia.....	Pf. J. A. Kirkpatrick	13	52	8	—9	39.3	2.88
Germantown.....	do.....	Thomas Meehan.....	13 18, 20	50	8	—13	27.6	.....
Moorland.....	Montgomery.....	Miss Anna Spencer..	3	52	8	—12	27.0	1.30
Dyberry.....	Wayne.....	Theodore Day.....	20	44	8	—22	17.5	.....
Nazareth.....	Northampton.....	L. E. Ricksecker....	19	53	8	—11	26.8	.....
North Whitehall....	Lehigh.....	Edward Kohler.....	18	46	8	—13	25.6	.....
Parkesville.....	Chester.....	Fenelon Darlington..	20	51	8	—10	26.8	2.09
Ephrata.....	Lancaster.....	W. H. Spera.....	13	68	8, 9	—9	28.2	3.87
Silver Spring.....	do.....	H. G. Bruckhart....	13	52	8	—6	28.1	.....
Mountjoy.....	do.....	J. R. Hoffer.....	23	60	8	—5	30.8	2.00
Harrisburg.....	Dauphin.....	John Heisely, M.D..	13	47	8	—2	28.4	2.35
Lewisburg.....	Union.....	C. T. James.....	13	48	8	—8	23.3	1.91
Tioga.....	Tioga.....	E. T. Bentley.....	20	56	8	—24	23.6	.....
Pennsville.....	Clearfield.....	Elisha Fenton.....	19	60	8	—12	22.6	2.55
Connellsville.....	Fayette.....	John Taylor.....	19	67	8	—12	26.8	.....
Canonsburg.....	Washington.....	Rev. Wm. Smith, D.D.	19	58	8	—7	24.9	1.76
MARYLAND.								
Woodlawn.....	Cecil.....	Jas. O. McCormick..	13	54	6	—7	29.8	2.61
Catonsville.....	Baltimore.....	George S. Grape....	13	52	8	—7	27.3	.....
Annapolis.....	Anne Arundel.....	Wm. R. Goodman....	13	54	8	—5	31.7	2.19
St. Inigoes.....	St. Mary's.....	Rev. J. Stephenson..	13	61	8	—8	32.9	2.53
Frederick.....	Frederick.....	Miss H. M. Baer....	13	53	8	—7	29.3	1.75
DIST. OF COLUMBIA.								
Washington.....	Washington.....	Smithsonian Instit'n.	13	56	8	—2	31.9	3.98
WEST VIRGINIA.								
Cabell Court-House.	Cabell.....	C. L. Roffe.....	19	60	8	3	34.3	1.90
VIRGINIA.								
Wythesville.....	Wythe.....	Howard Shriver....	19	63	5	8	33.2	.....
GEORGIA.								
Atlanta.....	Fulton.....	Frederick Deckner..	19, 30	71	9	15	42.0	3.98
ARKANSAS.								
Helena.....	Phillips.....	O. F. Russell.....	19	78	21	20	45.9	2.07
TENNESSEE.								
Clarksville.....	Montgomery.....	Wm. M. Stewart....	19	73	21	12	38.1	4.37
KENTUCKY.								
Louisville.....	Jefferson.....	Mrs. L. Young.....	19	70	8, 9	5	34.5	4.67
(Near) Chilesburg..	Clark.....	S. D. Martin, M.D..	19	68	9	2	34.0	4.68
Danville.....	Boyle.....	O. Beatty.....	19	73	8, 9, 21	8	36.0	5.34
London.....	Laurel.....	W. S. Doak.....	19	66	9	6	33.7	.....
OHIO.								
Austinburg.....	Ashtabula.....	.....	19	54	9	—10	21.0	0.35
Saybrook.....	do.....	James B. Fraser....	19	58	9	—8	23.2	1.50

Table showing the range of the thermometer, &c., for January—Continued.

Place.	County.	Observer's name.	Date.	Max.	Date.	Min.	Mean.	Rain.
OHIO—Cont'd.								
New Lisbon.....	Columbiana.....	J. F. Benner.....	19	62	2	—2	27.5	1.33
East Fairfield.....	do.....	S. B. McMillan.....	19	58	8	—3	25.5	1.90
Steuenville.....	Jefferson.....	Roswell Marsh.....	66	66	8	—6	28.3	1.93
Milnersville.....	Guernsey.....	Rev. D. Thompson.....	19	66	8	—3	26.2	2.05
East Cleveland.....	Cuyahoga.....	Mr. & Mrs. G. A. Hyde.....	19	61	9	0	26.7	1.29
Wooster.....	Wayne.....	Martin Winger.....	19	60	8	—2	25.2	0.47
Gallipolis.....	Gallia.....	A. P. Rogers.....	19	67	8	1	31.9	4.14
Kelley's Island.....	Erie.....	Geo. C. Huntington.....	19	51	8	3	25.4	1.81
Norwalk.....	Huron.....	Rev. A. Newton.....	19	60	9	3	25.2	1.73
Westerville.....	Franklin.....	Pf. H. A. Thompson.....	19	61	8	—2	27.0	2.73
Kingston.....	Ross.....	Prof. Jno. Haywood.....	19	64	2	—1	29.4	3.42
Toledo.....	Lucas.....	J. B. Trembley, M.D.....	19	57	2	—1	24.7	1.75
Marion.....	Marion.....	H. A. True, M.D.....	19	59	2	—1	25.0	2.72
Urbana University.....	Champaign.....	Prof. M. G. Williams.....	19	61	2	—2	25.8	3.39
Hillsboro'.....	Highland.....	J. McD. Mathews.....	19	63	2	—2	28.2	4.35
Ripley.....	Brown.....	G. Bambach, M.D.....	19	68	2	3	34.3	4.81
Bethel.....	Clermont.....	Geo. W. Crane.....	19	66	2	0	28.5	3.75
Cincinnati.....	Hamilton.....	George W. Harper.....	19	68	8	2	31.1	2.74
Do.....	do.....	R. C. Phillips.....	19	66	8	12	35.8	3.37
College Hill.....	do.....	L. B. Tuckerman.....	19	64	2	2	29.0	3.48
MICHIGAN.								
Monroe.....	Monroe.....	Miss F. E. Whelpley.....	19	59	2	—8	24.0	0.40
State Ag. College.....	Ingham.....	Prof. R. C. Kedzie.....	19	47	9	—7	21.2	2.08
Homestead.....	Benzie.....	Geo. E. Steele.....	29	39	2	—16	18.6	.....
Holland.....	Ottawa.....	L. H. Streng.....	12	43	9	—9	24.0	3.11
INDIANA.								
Balbee.....	Jay.....	Miss M. Griest.....	19	62	9	—2	24.4	.....
Aurora.....	Dearborn.....	Geo. Sutton, M. D.....	19	67	2	0	.....	2.75
Vevay.....	Switzerland.....	Chas. G. Boerner.....	19	69	9	2	32.3	4.06
Richmond.....	Wayne.....	John Valentine.....	19	61	2	1	25.9	3.20
Albion.....	Noble.....	Wm. Bonar.....	19	60	8	—4	24.0	.....
Spiceland.....	Henry.....	Wm. Dawson.....	19	61	8	2	27.3	3.10
Columbia.....	Whitley.....	Dr. F. & Miss McCoy.....	19	62	4, 5, 9	—4	22.5	1.29
Indianapolis.....	Marion.....	Dr. W. W. Butterfield.....	19	60	9	2	28.1	.....
New Harmony.....	Posey.....	Jno. Chappellsmith.....	19	68	20	10	35.5	2.64
ILLINOIS.								
Chicago.....	Cook.....	Samuel Brookes.....	12	38	20	—10	18.5	.....
Evanston.....	do.....	.....	12	45	20	—8	23.3	2.00
Marengo.....	McHenry.....	J. S. Rogers.....	12	41	20	—1	19.5	0.83
Riley.....	do.....	E. Babcock.....	12	29	20	—13	18.7	2.11
Golconda.....	Pope.....	W. V. Eldredge.....	19	69	20	—10	28.3	.....
Aurora.....	Kane.....	A. Spaulding.....	12	42	20	—10	20.3	1.97
Sandwich.....	DeKalb.....	N. E. Ballou, M.D.....	12	41	20	—11	18.6	2.10
Ottawa.....	La Salle.....	Mrs. E. H. Merwin.....	12	45	20	—12	21.9	2.85
Winnebago.....	Winnebago.....	J. W. & Miss Tolman.....	12	38	20	—14	16.7	2.49
Wyanet.....	Bureau.....	E. S. & Miss Phelps.....	6	50	20	—10	21.7	2.03
Tiskilwa.....	do.....	Verry Aldrich.....	12	44	20	—7	23.3	.....
Elmhurst.....	Stark.....	O. A. Blanchard.....	6, 31	45	20	—13	22.3	2.55
Peoria.....	Peoria.....	Frederick Brendel.....	12	46	20	—4	25.1	3.21
Springfield.....	Sangamon.....	G. M. Brinkerhoff.....	6, 12	46	20	—1	26.0	.....

Table showing the range of the thermometer, &c., for January—Continued.

Place.	County.	Observer's name.	Date.	Max.	Date.	Min.	Mean.	Rain.
ILLINOIS—Cont'd.								
Loami	Sangamon	Timothy Dudley	6	47	20	— 5	25.2	3.35
Dubois	Washington	Wm. C. Spencer	19	68	20	— 3	30.5	2.30
Galesburg	Knox	Pf. Wm. Livingston	12	45	20	—10	21.3	2.75
Angusta	Hancock	S. B. Mead, M. D.	29	55	20	— 9	25.6	3.52
Manchester	Scott	Dr. J. & Miss Grant	6	50	20	— 2	27.5	3.75
Clinton	De Witt	C. H. Moore	4, 5, 20		20	0		
Mount Sterling	Brown	Rev. A. Duncan	6	53	20	— 9	25.8	
Andalusia	Rock Island	E. H. Bowman, M. D.	12	45	20	— 8	22.6	1.68
WISCONSIN.								
Manitowoc	Manitowoc	Jacob Lüps	10	44	20	—12	19.5	2.63
Milwaukee	Milwaukee	I. A. Lapham, LL.D.	12	44	20	—10	19.8	2.58
Do	do	Carl Winkler	12	43	20	— 8	20.8	2.21
Ripon	Fond du Lac	Prof. Wm. H. Ward	10	46	21	—11	17.4	
Delavan	Walworth	Leveus Eddy	12	38	20	—12	17.5	1.86
Waupacca	Waupacca	H. C. Mead	28	42	20	—13	16.9	
Weyauvega	do	J. C. Hicks	28	45	20	—10	23.2	3.72
Embarrass	do	E. Everett Breed	28	40	21	—18	16.4	4.00
Rocky Run	Columbia	W. W. Curtis	28	42	20	—14	17.2	3.19
Baraboo	Sauk	M. C. Waite	28	44	20	— 7	21.2	6.97
Beloit	Rock	H. D. Porter	12	40	20	—13	18.0	1.10
Plymouth	Sheboygan	G. Moeller	28	41	20, 21	—15	16.5	2.20
MINNESOTA.								
Afton	Washington	Dr. & Mrs. Babcock	28	40	20	—20	10.0	
Bowles Creek	do	Andrew Stouffer	28	40	20	—22	10.5	2.25
St. Paul	Ramsey	Rev. A. B. Paterson	28	37	20	—20	10.4	2.00
Minneapolis	Hennepin	Wm. Cheney	28	41	20	—21	8.2	2.05
Forest City	Meeker	Henry L. Smith	10, 28	42	20	—23	16.4	
Sibley	Sibley	C. W. & C. E. Woodbury	29	41	4	—27	9.8	3.50
New Ulm	Brown	Charles Roos	10, 28, 29	38	20	—18	12.4	1.27
IOWA.								
Clinton	Clinton	Dr. P. J. Farnsworth	12, 28, 29	42	4	— 5	19.8	2.80
Lyons	do	A. T. Hudson	13, 27, 29	36	16	0	19.5	2.78
Davenport	Scott	George B. Pratt	29	38	20	—10	18.1	3.39
Dubuque	Dubuque	Asa Horr, M. D.	12	39	20	—13	19.4	3.29
Muscatine	Muscatine	I. P. Walton	10	46	20	—11	19.3	4.16
Fort Madison	Lee	Daniel McCready	6, 29	45	20	—10	23.1	4.28
Monticello	Jones	Chauncey Mead	29, 31	36	20	—18	15.3	3.77
Guttenberg	Clayton	Philip Dorweiler	12, 28	35	20	—14	15.6	
Ceres	do	J. M. Hagensick	28	42	20	—18	16.3	
Manchester	Delaware	Allen Mead	12	40	20	—15	14.6	2.64
Mount Vernon	Linn	Prof. A. Collins	29	41	20	—13	18.4	
Iowa City	Johnson	T. S. Parvin, A. M.	6	47	20	—14	20.7	4.77
Independence	Buchanan	A. C. Wheaton	29	40	20	—18	13.5	5.70
Do	do	D. S. Deering	11, 12, 28, 29	36	20	—12	16.7	
Waterloo	Black Hawk	T. Steed	29	42	20	— 8	15.1	
Iowa Falls	Hardin	N. Townsend	29	44	17	— 8	16.9	
Des Moines	Polk	Rev. J. A. Nash	10, 11	46	20	—11	19.2	

Table showing the range of the thermometer, &c., for January—Continued.

Place.	County.	Observer's name.	Date.	Max.	Date.	Min.	Meann.	Rain.
MISSOURI.								
St. Louis University.	St. Louis	Rev. F. H. Stuntebeck	12	57	20	4	33.7	3.88
Athens	Clark	J. T. Caldwell.....	29, 31	50	20	— 8	30.8	2.86
Canton	Lewis	George P. Ray.....	29	52	20	—10	25.1	3.45
Harrisonville	Cass	John Christian	6, 29	52	20	— 8	29.9	1.25
Easton	Buchanan	P. B. Sibley	6	50	20	—14	25.9	3.34
KANSAS.								
Olathe	Johnson.....	W. Beckwith	29	54	20	—12	26.5	2.70
Atchison	Atchison	Dr. H. B. & Miss Horn	11	59	20	—12	24.1	.....
Fort Riley.....	Davis	Jos. M. Shaffer.....	11	55	20	—10	29.4	1.70
NEBRASKA TER.								
Elkhorn.....	Washington	John S. Bowen	11, 28, 31	45	20	—14	19.8	.....
Bellevue	Sarpy.....	Rev. Wm. Hamilton.	29	46	20	—11	21.3	2.05
UTAH TER.								
Great Salt Lake city.	Great Salt Lake.	W. W. Phelps.....	24	45	15	2	26.6	1.83

Table showing the average temperature and fall of rain (in inches and tenths) for the month of January, in each year named, and for the five years first named, collectively, with the average number of places in each State in which the observations were made.

States and Territories.	Av. number of places.	Averages, 1855.		Averages, 1856.		Averages, 1857.		Averages, 1858.		Averages, 1859.		Av. for five years.		Averages, 1864.		Averages, 1865.		Averages, 1866.	
		Mean temp.	Mean rain.	Mean temp.	Mean rain.	Mean temp.	Mean rain.	Mean temp.	Mean rain.	Mean temp.	Mean rain.	Mean temp.	Mean rain.	Mean temp.	Mean rain.	Mean temp.	Mean rain.	Mean temp.	Mean rain.
Maine.....	5	Deg. 54.3	In. 4.83	Deg. 52.6	In. 2.46	Deg. 51.9	In. 7.81	Deg. 52.6	In. 3.81	Deg. 51.2	In. 4.81	Deg. 51.8	In. 4.71	Deg. 52.2	In. 4.02	Deg. 53.2	In. 3.83	Deg. 53.6	In. 2.01
New Hampshire.....	4	55.8	5.65	55.8	2.95	55.8	3.31	55.8	2.46	55.8	3.82	55.8	3.64	55.8	3.57	55.8	3.77	55.8	2.00
Vermont.....	4	55.3	1.95	55.3	1.48	55.3	2.57	55.3	1.88	55.3	2.63	55.3	2.10	55.3	3.69	55.3	2.72	55.3	1.43
Massachusetts.....	12	59.1	4.85	58.0	5.25	58.0	5.50	58.0	3.20	58.0	7.04	58.0	4.68	58.0	3.63	58.0	4.41	58.0	2.39
Rhode Island.....	1	59.0	6.45	58.6	4.61	58.8	4.32	58.8	3.33	58.8	5.75	58.8	4.98	58.8	3.66	58.8	3.56	58.8	3.57
Connecticut.....	4	57.7	3.36	56.9	2.82	56.9	3.01	56.9	3.03	56.9	3.52	56.9	3.00	56.9	3.34	56.9	3.31	56.9	1.97
New York.....	19	52.4	3.37	50.6	3.67	50.6	4.43	50.6	2.25	50.6	5.47	50.6	4.10	50.6	3.02	50.6	4.10	50.6	2.10
New Jersey.....	3	52.4	2.72	50.6	2.51	50.2	2.69	50.2	3.58	50.2	3.59	50.2	2.72	50.2	2.50	50.2	3.32	50.2	2.50
Pennsylvania.....	19	50.0	2.11	48.4	2.51	48.4	2.69	48.4	3.15	48.4	4.81	48.4	3.00	48.4	2.50	48.4	3.32	48.4	2.50
Delaware.....	1	53.8	3.58	51.9	3.39	51.9	2.88	51.9	1.17	51.9	4.81	51.9	3.00	51.9	2.50	51.9	3.32	51.9	2.50
Maryland.....	1	53.1	4.00	51.6	4.00	51.6	2.88	51.6	1.62	51.6	4.53	51.6	3.00	51.6	2.50	51.6	3.32	51.6	2.50
District of Columbia.....	1	57.1	1.31	56.4	1.31	56.4	2.37	56.4	1.62	56.4	4.53	56.4	3.00	56.4	2.50	56.4	3.32	56.4	2.50
South Carolina.....	5	47.2	1.31	46.7	1.31	46.7	2.37	46.7	1.62	46.7	4.53	46.7	3.00	46.7	2.50	46.7	3.32	46.7	2.50
Tennessee.....	2	39.6	3.61	38.7	1.88	38.7	1.53	38.7	1.72	38.7	3.31	38.7	3.01	38.7	1.25	38.7	2.58	38.7	4.37
Kentucky.....	4	38.7	3.61	38.7	1.88	38.7	1.53	38.7	1.72	38.7	3.31	38.7	3.01	38.7	1.25	38.7	2.58	38.7	4.37
Ohio.....	19	31.4	3.70	31.3	1.60	31.3	1.39	31.3	1.72	31.3	2.42	31.3	1.59	31.3	1.01	31.3	2.58	31.3	2.58
Michigan.....	7	35.8	4.66	35.3	1.21	35.3	1.01	35.3	1.72	35.3	2.42	35.3	1.59	35.3	1.01	35.3	2.58	35.3	2.58
Indiana.....	4	33.6	4.66	33.3	1.21	33.3	1.01	33.3	1.72	33.3	2.42	33.3	1.59	33.3	1.01	33.3	2.58	33.3	2.58
Illinois.....	12	28.2	9.21	28.2	14.4	28.2	11.7	28.2	1.82	28.2	1.78	28.2	2.40	28.2	1.78	28.2	2.58	28.2	2.58
Wisconsin.....	3	21.9	2.60	21.9	2.60	21.9	1.12	21.9	1.72	21.9	1.78	21.9	1.72	21.9	1.78	21.9	2.58	21.9	2.58
Minnesota.....	3	0.8	2.60	0.8	2.60	0.8	1.12	0.8	1.72	0.8	1.78	0.8	1.72	0.8	1.78	0.8	2.58	0.8	2.58
Iowa.....	7	23.5	2.08	23.5	1.01	23.5	0.91	23.5	1.72	23.5	1.78	23.5	1.72	23.5	1.78	23.5	2.58	23.5	2.58
Missouri.....	2	33.8	4.66	33.8	1.01	33.8	0.77	33.8	1.72	33.8	1.78	33.8	1.72	33.8	1.78	33.8	2.58	33.8	2.58
Nebraska Territory.....	1	23.5	2.08	23.5	1.01	23.5	0.91	23.5	1.72	23.5	1.78	23.5	1.72	23.5	1.78	23.5	2.58	23.5	2.58
Kansas.....	2	44.4	2.67	44.4	1.57	44.4	1.49	44.4	1.72	44.4	1.78	44.4	1.72	44.4	1.78	44.4	2.58	44.4	2.58
California.....	2	44.4	2.67	44.4	1.57	44.4	1.49	44.4	1.72	44.4	1.78	44.4	1.72	44.4	1.78	44.4	2.58	44.4	2.58

NOTES OF THE WEATHER, JANUARY, 1866.

FROM THE SMITHSONIAN INSTITUTION.

The meteorology of January, 1866, presents a number of prominent features of unusual interest. Among these is the extraordinary height of the barometer for several days, the maximum occurring on the same day (the 8th) at all the stations, as far as intelligence has been received, from Nova Scotia to the west and southwest. Only a few observers give one precise hour of the maximum, and it probably occurred in all or nearly all cases between the regular hours of observation. At the time of this high barometer, intense cold prevailed in New England and as far west as towards Ohio. This cold does not appear to have come from the west. On the night of the 19th, a remarkable thunder-storm occurred at the west, preceded by a very high temperature, and followed by a very sudden and great depression. This change gave the minimum of the month at the west, and prevailed in a modified form as far east as the registers extend. The time and space allotted to these monthly printed reports allow only a few memoranda of the more interesting features of the month in the following notes, and these not as systematically arranged as we would desire. The table which follows the notes presents a view of the temperature over a large portion of the country at the time of the severe cold at the east, and will be interesting to many observers who have wished to make comparisons, but have not had so ample materials as this table furnishes.

Wolfville, Nova Scotia.—The highest temperature of the month was at 9 p. m. on the 20th, $38\frac{1}{2}^{\circ}$; at the same hour next evening it was twenty-three degrees lower. The lowest temperature by the minimum thermometer was $11\frac{3}{4}^{\circ}$ below zero in the night of the 6th or morning of the 7th.

Gardiner, Maine.—The barometer rose to an unusual height on the 8th of January, (30.882 reduced.) The maximum occurred at midnight of the night of the 7th—8th. Only two or three times has so great a height been recorded here. The average temperature of the month for thirty years is 18.05° . This year is nearly three and two-thirds degrees colder than the average. There have been eight Januaries in the thirty years as cold or colder. The extreme cold was only 20° below zero, but the continuance of the mercury below zero for four days, from the 5th to the 8th, was remarkable. The severe drought from which the whole of New England is suffering still continues; the entire moisture of the month has been 1.626 inch; only three Januaries are recorded where the moisture has been so little.

Steuben, Maine.—January 11.—To-day is the first day for a week that it has thawed any, even in the sun and out of the wind; the ground is cracked and the road broken into by cracks.

Standish, Maine.—January 29.—In digging a grave found frost in the ground to the depth of thirty inches. It was on a place that had been bare till within a week.

West Waterville, Maine.—January 7.—This has been the coldest day since February 8, 1861. The thermometer then went down to 29° below zero; to-day 23° below. The mean temperature of that day was 22.67° below zero; to-day 14.67° below. There is but about six inches of snow now, and the ground is frozen about one foot.—27th. Snow from 10 a. m. of the 25th to 9 a. m. on the 27th; the severest storm of the winter thus far; fourteen and a half inches of snow fell.

Webster, Maine.—January 6.—Found the ground frozen about a foot.

Stratford, New Hampshire.—The thermometer was below zero on eleven days in this month. From the 5th to the 8th inclusive, it was below zero all the time. On the 20th it thawed a little, but on no other day during the month.

There is no more water in the wells, springs, and brooks. It is the driest January the observer has ever known here.

Shelburne, New Hampshire.—January 1.—Brooks and rivers are very low; some wells and springs which have seldom or never failed before, are dry now. 13th.—The ground is frozen hard to the depth of two feet; some frost to the depth of three feet. 21st.—From ten o'clock last evening to three or four this morning, the wind blew with great force, almost or quite a hurricane. 31st.—Rivers, brooks, and springs never known so low at this time of the year as now.

Claremont, New Hampshire.—A remarkable drought prevails, and streams are very low. At the time of the severe cold, from the 5th to the 9th, there was almost no snow, and the ground froze very deep; freezing cellars which had never been subject to frost before. Large quantities of potatoes and other vegetables have been injured.

Lunenburg, Vermont.—The month, on the whole, has been mild, and much less snow has fallen than for many years before. At the close of the month, however, sleighing is good, but the depth of the snow is not sufficient for logging.

East Bethel, Vermont.—January 7.—Loud explosions were heard through the night from frozen earth bursting, and leaving cracks half an inch wide in many places. 8th.—For four days the temperature has been below zero all the time, and the wind from the northeast. Nights resound with loud snapping in the woods, and travelled roads crack open with loud noise, jarring houses; cellars are freezing; little rivulets are lost in beds of ice. 15th.—Wind blew violently all night; calmed down at 7 a. m. Sleighing poor; not over two inches on a level; ground frozen from two to three feet.

Georgetown, Massachusetts.—The cold term in the early part of this month was remarkable for its length. February 8, 1861, far exceeded it in intensity, the mean temperature for the a. m. being 19.2° below zero, and for the p. m. 9.8° below; but such a depression of the mercury was of short continuance.

Richmond, Massachusetts.—Up to January 4 the season was remarkably mild and pleasant. On the morning of the 4th a dense fog hung over the lowlands, and every tree, shrub, and spire of grass was thickly and beautifully encased with frost. The morning was cloudy. At a few minutes past two p. m. the clouds gathered blackness in the northwest, and the wind changed from the southwest to that direction, accompanied by a short snow-squall. Here the cold time commenced, and continued till the 10th; the lowest temperature being on the morning of the 8th.

Westfield, Massachusetts.—The month of January has been unusually dry. Streams are low; some mills cannot run full time; wells are becoming dry. There has been no such weather here for many years.

Williamstown, Massachusetts.—At 10 a. m. on the 8th of January, the barometer was higher than before recorded here.

Groton, Connecticut.—January 31.—The river at this place (opposite New London, on the river Thames) has been open all winter, not even being skimmed across with ice, and vessels have been constantly going up and down the river to Allen's Point, five or six miles above this place. Frost supposed to be about eighteen inches deep in the ground.

Pomfret, Connecticut.—This month has been very dry; many of the mills in this region have stopped for want of water. The amount of rain and melted snow is less for this month than in any January for the last thirteen years.

South Hartford, New York.—January opened very mild and pleasant, and during the first four days the little remaining snow upon the hillsides slowly disappeared. The cold period from the 5th to the 10th is unequalled here, both for its severity and duration; the mercury remained below zero for ninety hours. Combined with the cold was the failure of water in many instances. The wells and streams filled up very late in the autumn, and then to a less ex-

tent than usual; in consequence they are now quite low. The latter portion of January has been very pleasant. At the end of the month there is barely sufficient snow for sleighing.

Garrison's, New York.—January has been marked by much overcast weather, and frequent rain and snow; but the aggregate is less than last year in the same month, and streams are correspondingly low. It is feared the alternate exposure and snow has already done much injury to grain and fruit. The river at this point remains firmly closed, and crossing for all purposes of traffic is safe.

South Trenton, New York.—Distant thunder on the 20th, with heavy rain. Water is very low in wells, and the ground frozen, on an average, fourteen inches.

Theresa, New York.—Distant thunder in the west on the 20th a little before 7 a. m.; twenty-three peals, forked lightning; passed off to the north about 9 a. m.

Nichols, New York.—There was hardly a day of good sleighing in January, and when the ground was covered with snow at all, it was generally not more than two inches, and every few days the ground was wholly bare. The cold on the 7th and 8th was more intense than before in a number of years.

Palermo, New York.—January 1.—The winter thus far has been unusually open and mild. 9th.—The sky for the past few days has been very dark blue, and the cold has been more intense and of longer duration than for a number of years. 10th, temperature of water in well 44°. 31st.—This has been the coldest January but one during the past eight years; the coldest was in 1863.

Hector, New York.—January 7.—The cold weather has killed the peach buds. 31st, temperature of water in a well 32 feet deep, 47°.

Depauville, New York.—January 5.—Yesterday there was good boat crossing on the river St. Lawrence, (at Clayton, six miles from here,) but the river froze over last night, and affords this morning good crossing on the ice. 19th, sleighing since the 13th. On the 16th and 17th the snow drifted in the roads, and is in some exposed places three feet deep. On Chaumont bay the ice is now twenty inches thick. 20th, lightning from dark clouds in the northwest at 3.30 a. m.; thunder-storm north at 6.25 a. m.; six thunder claps were counted, of which the fourth was the loudest, shaking buildings and striking a stump about a mile northwest from here; there was a heavy but short shower. 31st, good sleighing since the 25th.

Buffalo, New York.—The winter thus far has been an open one, only twenty-six inches of snow in all. The first snow in January to whiten the earth came on the 4th, and the first to make sleighing on the 16th. The mean temperature of the month was five and a half degrees lower than the average for eight years. Lake Erie was closed at this point on the 6th. There were severe gales on the 16th, 20th, and 21st.

Newburgh, New York.—During the latter part of December, and up to January 4, the weather had been very moderate, but in the afternoon of the 4th the wind changed to the northwest, and by the morning of the 5th the thermometer had fallen to 4°. In the afternoon of the 6th the river closed, and on the 8th people crossed all day on the ice.

New York city, (Columbia College.)—January 8.—The moisture formed by the burning gas froze inside of the street lamps; oil lamps in the street cars were extinguished by the oil congealing. A high wind from the northwest has prevailed for two days. A professor and several students of the school of mines had their ears badly frozen this morning. The barometer has been higher than ever recorded here before. Although the temperature was lower than for many years, the average of the day was not so low as on the 3d of February, 1855.

Niskill, on Hudson, New York.—The cold of the 7th and 8th has probably killed the peach, cherry, and plum buds.

Rochester, New York.—The highest temperature of the month was at 7 a. m. on the 20th, 51° ; at the same hour next morning it was 7° .

Newark, New Jersey.—The mean temperature of January was more than three degrees and three-quarters below the average of the month for the last twenty-two years, and the minimum temperature on the morning of the 8th was unprecedented during the whole of that period. Coincident with the extreme cold a remarkable rise occurred in the barometer, the mercury attaining 30.955 inches, (reduced to the temperature of 32° ;) which is a higher stage than at any time since the barometrical observations commenced in April, 1845. The height of the station above the sea is about thirty-five feet.

Haddonfield, New Jersey.—In the afternoon of the 7th a rapid decline of temperature began with a fresh northwest breeze which was piercing cold. The mercury sank from 23° at 7 a. m. to 2° below zero at 9 p. m., and by the indications of a self-registering thermometer to 14° below during the same night, or early on the morning of the 8th; at 7.20 a. m. of the 8th it was 12° below by Green's standard thermometer. On January 24, 1857, the temperature was 12° below zero. The observer is not aware of a lower temperature having been recorded at this place. The barometer reached its maximum at 7.15 a. m. of the 8th, when it stood at 30.532 inches, (reduced.) Height of station about fifty feet.

Greenwich, New Jersey.—The temperature on the 8th was lower than has been remembered for nearly nine years, and the barometer rose higher than ever before during the seven years the observer has had the instrument. Cohansey creek, which was free of ice on the evening of the 7th, was frozen next morning for the first time this season.

Trenton, New Jersey.—January 8.—Delaware river frozen over; ice in canal eight inches thick. This morning (12° below zero) is the coldest since January 24, 1857, when the thermometer stood 17° below.

New Brunswick, New Jersey.—Barometer at 7 a. m., January 8, reduced, 30.967. Height of station eighty feet.

Philadelphia, Pennsylvania.—January 8.—This was the coldest day of the winter. Early in the morning the thermometer indicated a temperature of 9° below zero, the lowest during the whole time of these observations, now fifteen years. The mean temperature of the whole day was $23\frac{3}{4}^{\circ}$. The mean temperature of the 9th of January, 1856, was 1° below zero; with that exception, this was the coldest day observed. The barometer at 7 a. m. this morning was 30.757, the highest for fifteen years.

Grampian Hills, Pennsylvania.—The month of January has been mostly very favorable for out-door work; the roads generally hard; no great depth of snow; little or no mud; snows mostly light; no heavy rains, floods, or drifts.

Harrisburg, Pennsylvania.—January 9.—The Susquehanna river closed with ice.

Horsham, Pennsylvania.—January 8.—The thermometer said to be lower and the barometer higher this morning than ever known here before.

Fallsington, Pennsylvania.—January 8.—Remarkable for the highest barometer recollected. Delaware river closed.

Byberry, Pennsylvania.—January 8 was the coldest day known here for many years. Ice six inches thick.

Nazareth, Pennsylvania.—January 6.—Temperature of a spring of running water 50° . 8th.—Last night was the coldest known here for many years.

Dyberry, Pennsylvania.—January 8.—Between 7 and 8 a. m. the temperature was 23° below zero, the coldest since January 24, 1857, when it was 28° below zero. 19th, ice on natural ponds ten inches thick. 31st.—There has been no really good sleighing yet this winter; each fall of snow coming on dry frozen ground, would not pack well, and melted in places before another came. Lumbermen seldom have so poor a winter to get their lumber to the mills and streams.

Atlanta, Georgia.—Temperature on the 19th at 7 a. m. 60° , at 2 p. m. 71° ,

at 9 p. m. 62° ; on the 20th, at 7 a. m. 61° , at 2 p. m. 40° , at 9 p. m. 25° . January 24.—At 3 p. m. heavy thunder and lightning in the west.

Jackson, Mississippi.—January 19 was unpleasantly warm, the warmth lasting till after midnight. About 4 o'clock a. m. of the 20th, a violent storm of wind and rain came on, accompanied with thunder and sharp lightning. The temperature fell below freezing point by daylight and appeared to continue falling all day. The storm, with the change of temperature, but without the thunder and lightning, extended at least to Vicksburg and Meridian.—*Correspondence.*

Helena, Arkansas.—The warmest day of the month was the 19th, mean temperature $72\frac{2}{3}^{\circ}$, and the next day was the coldest, mean temperature $22\frac{2}{3}^{\circ}$.

Wytheville, Virginia.—January 8.—Barometer at 2 p. m. and 9 p. m. 28.418. This is much higher than has been recorded before. The position is two thousand two hundred and fifty-seven feet above the sea.

Beaufort, North Carolina.—January 8 was the coldest day of the winter: ice an inch thick formed in the ponds and creeks. A terrific gale set in from the north and proved very destructive to commerce. Thermometer 12° . It was something remarkable for this climate.

Clarksville, Tennessee.—January 8.—The barometer was higher (the observer thinks) than it has been in the last fifteen years; at 11 a. m. it stood for a short time at 30.500 inches, which is nearly an inch above the annual mean. 20th, yesterday was very warm, the mean temperature 69.87° . The wind was quite fresh from the southward, increasing to a gale after dark. Between 9 and 10 p. m. faint flashes of reflected lightning at the northern horizon. Rain from $9\frac{3}{4}$ p. m. to midnight, then snow till about $4\frac{1}{2}$ o'clock this morning, covering the ground to the depth of two and a half inches. At 9 o'clock last night the temperature was 71° , at 7 o'clock this morning 17° , a fall of fifty-four degrees in ten hours.

Nashville, Tennessee.—The newspapers mention a severe gale at Nashville in the night of the 29th, blowing down several houses, and that in Edgefield, opposite Nashville, the mercury fell to 8° below zero, with an inch and a half of snow.

Olmstead Station, Logan county, Kentucky.—The storm of Friday night, January 29, was one of the most terrible ever experienced in that section of the country. The weather was excessively warm up to midnight, when it commenced blowing and raining. Every house in its track, which seemed to be one mile in width, was more or less damaged. The fences for miles were blown away, leaving the country bare of them.—*Newspaper.*

Danville, Kentucky.—The thermometer fell from 64° at 9 p. m. of the 19th, to 24° at 7 a. m. of the 20th, and to 8° at 7 a. m. of the 21st.

Louisville, Kentucky.—In the night of the 19th of January, at midnight, a storm suddenly came up with a strong blow from the west, followed by heavy rain, accompanied with occasional peals of thunder, the storm closing with a light fall of snow. The thermometer in six hours changed from 68° to 15° , a fall of fifty-three degrees from midnight to daybreak.

Chilesburg, Kentucky.—On the 19th the temperature at 9 p. m. was 64° ; at the same hour the next evening it was 12° .

Westerville, Ohio.—During the night of the 19th there was a heavy storm of rain accompanied with thunder and lightning, and considerable wind; afterwards hail, and, on the morning of the 20th, an inch of snow was on the ground, and the thermometer, which at 9 p. m. of the 19th stood at 61° , had fallen to 20° at 7 a. m. of the 20th, and to 6° at 7 a. m. of the 21st.

New Lisbon, Ohio.—January 8.—The highest barometer ever observed in this section of the country. 13th, heavy rain last night, with high wind, sharp lightning, and heavy thunder; air this morning clear and bracing. Thermometer 60° at 9 p. m. of the 19th, 48° at 7 a. m. next morning, and 8° at 7 a. m. of the 21st; no rain mentioned.

Cleveland, Ohio.—January 8.—The barometer stands thirty-six hundredths of an inch higher to-day than at any time for seven years past. 12th, lightning and thunder about 10 p. m. 19th, thermometer at 9 p. m. 58° ; 20th, 7 a. m., 28° ; 21st, 7 a. m., 6° ; rain and snow in the night of the 19th.

Kelley's Island, Ohio.—January 8.—Barometer attained its maximum at 10 a. m., and remained stationary for an hour, being higher than the observer had ever before recorded. At 12 m. the top of the column was concave, but not perceptibly lower; at 1 p. m. it had fallen five hundredths of an inch. 19th, thermometer at 9 p. m. 44° ; at the same hour next night 7° .

Kingston, Ohio.—January 8.—The barometer is higher to-day than the observer ever saw it before. 20th, about two o'clock this morning a thunder-storm came up, which was followed by a high northwest wind and a fall of temperature. At 9 p. m. of the 19th the thermometer was 62° , and at the same hour next night it had fallen fifty degrees.

East Fairfield, Ohio.—January 8.—The barometer was at the highest from 10 to 11 a. m. 13th, a thunder gust came up about midnight last night, accompanied with some hail. 20th, the wind was high from midnight till 4.15 a. m., when it was attended by a sudden gust of heavy rain, apparently from the west, lasting only five minutes. There were a few light showers afterwards till 8 a. m., when it commenced snowing.

Urbana, Ohio.—January 8.—At 2 p. m. the barometer stood at 30 inches, (reduced to freezing point.) The observer has never seen it higher during the thirty-three years of his observations. The barometric wave was over six days in passing. 20th, a violent thunder-storm began at about 1 a. m.; the thunder continued an hour and a half; there was some hail in the early part of the storm, and the rain was followed by snow. At 2 o'clock the thermometer, then standing at 61° , began to fall, and in five hours it fell fifty-one degrees.

Toledo, Ohio.—January 8.—The highest barometrical reading that was ever observed in this vicinity occurred at 2 p. m. The barometer was several days rising and also in falling. The only other phenomenon attending it was the extreme cold. 19th, thermometer at 2 p. m., 54° ; at 9 p. m., 57° . A shower of rain occurred soon after midnight, accompanied with sharp thunder and lightning. Temperature at 7 a. m. on the 20th, 10° .

Marion, Ohio.—January 12.—Thunder shower at 9 p. m., with frequent and vivid flashes of lightning and heavy thunder; wind from the southwest, and the shower passing over the village. 20th, thunder shower at 2 a. m., passing apparently from southwest to northeast.

Bethel, Ohio.—January 12.—Lightning in the north at 9 p. m. 15th, thunder overhead at $4\frac{1}{2}$ p. m., once only; lightning in the north at 8 p. m. 20th, in the morning, rain, hail, and snow, with thunder and lightning.

Cincinnati, Ohio.—Storm of Friday night, January 19, was very severe in this neighborhood; at Lexington, Kentucky, trees were torn up, fences prostrated, and chimneys overthrown.—*Newspaper.*

Monroe, Michigan.—January 19.—Temperature at 9 p. m., 45° ; at 7 a. m. 20th, 14° ; at 7 a. m. 21st, 4° ; no rain mentioned; gale from the northwest on the 20th.

Oshtemo, Michigan.—January 20.—Shower last night, with sharp lightning and some heavy thunder. It rained and froze and then snowed.

Homestead, Michigan.—January 20.—Rain last evening from the southwest, which is uncommon here in winter; wind strong from northwest before morning. Thermometer at 9 p. m. of the 19th, 33° ; next morning at 7 a. m., zero.

Holland, Michigan.—January 19.—Little drizzly rain early in the morning and afternoon; harder at night, with diffused lightning; changed to colder at 11 p. m. 20th, rained a little and snow the past night; snowing all day; very blustering night and day; great fluctuations in temperature in the forenoon—sometimes ten degrees in fifteen minutes.

Lansing, Michigan.—January 8.—At noon the barometer was higher than ever known here. 19th, rain, attended with lightning, at 11 o'clock p. m. This rain was attended and followed by a gale and rapid fall of temperature—falling from 47° at 9 p. m. of the 19th to 1° at the same hour on the 20th.

Detroit, Michigan.—January 20.—During the storm last night sharp flashes of lightning were frequent. The wind suddenly changed to the northwest, and the thermometer fell forty-eight degrees in six hours.—*Newspaper.*

New Harmony, Indiana.—January 8.—At 7 a. m., the highest barometer at this station during the last fourteen years. 19th, thunder-storm during the night, followed by the first snow of the season. The 19th was the warmest day of the month, mean temperature 61° ; the next day was the coldest, mean temperature $13\frac{1}{2}^{\circ}$.

Balbec, Indiana.—January 8.—The barometer was several tenths higher this forenoon than it has been at any time during the two years these observations have been taken. 15th, frozen rain and sleet last night; 3 p. m., thunder gust from the southeast, general rain, heavy thunder, forked lightning. 19th, lightning in the northwest at 9 p. m.; hard thunder gust before midnight; thermometer fell from 62° at 9 p. m. to 2° next morning at 7 a. m. The 19th was the warmest day of the month, mean temperature $59\frac{2}{3}^{\circ}$, and the 20th the coldest, mean temperature $3\frac{2}{3}^{\circ}$.

Veray, Indiana.—January 20.—Yesterday was mild and spring-like, and the warmest day of the month; thermometer at 9 p. m. 68° ; near 11 p. m. a strong gale commenced blowing from the southwest, which was followed by a terrific thunder-storm, with frequent vivid flashes of lightning and sharp thunder; thermometer 70° . The storm moved in a northeast direction, and continued till 12.30 a. m. 20th, when the wind changed to northwest, and the rain to a brisk snow-storm. The thermometer at 5 a. m. indicated 14° , showing a fall of fifty-six degrees in six hours. One inch of snow fell in the night. Fifteen miles north of here a barn was struck by lightning and consumed.

Indianapolis, Indiana.—The 19th was the warmest and the 20th the coldest day of the month, the mean temperature falling fifty and a half degrees.

Indianapolis, Indiana.—January 21.—A tremendous thunder-storm prevailed yesterday morning, and suddenly the mercury fell forty degrees, freezing everything tight and blocking railroad travel. We are now experiencing the severest weather of the winter thus far.—*Newspaper.*

Fort Wayne, Indiana.—January 20.—Yesterday was warm and sultry as May. At 10 o'clock p. m. an unusual rain, attended with lightning, thunder, hail and wind, commenced falling, and soon the street gutters were full, and even the pavements flooded. The thermometer indicated a fall of fifty-two degrees from 9 o'clock last evening to 7 o'clock this morning. 24th, quite a snow fell on Monday night, the 22d, and we have now the best sleighing of the season so far; snow from four to six inches deep, and still snowing; the roads hard and smooth.—*Newspaper.*

Albion, Indiana.—There were thunder-storms on the 15th and 19th. The weather did not become much colder after the first thunder, but on the night of Friday, the 19th, there was a very sudden change, the temperature falling from 60° that night to 2° next morning.

Columbia City, Indiana.—January 15.—Thunder in the west with rain in the afternoon; at 4 p. m. the lightning struck a large hickory tree three-quarters of a mile from the centre of the town. 19th, a warm rain in the afternoon, and more rain after dark; thunder at 9 p. m., and rain from 10 to 12 p. m.; considerable hard thunder and lightning, striking frequently some distance off; wind high, and much timber blown down in the neighborhood. At 2 p. m. the temperature was 54° ; at 9 p. m. 62° ; after midnight it turned cold, and by the morning of the 20th the thermometer had fallen to zero. The 19th was the warmest day of the month—mean temperature $50\frac{2}{3}^{\circ}$; and the 20th the coldest—

mean temperature $32\frac{1}{2}^{\circ}$. These sudden changes have caused a more than usual amount of sickness. Ground frozen forty-one inches in the graveyard at the end of the month.

Aurora, Indiana.—On the 7th, 8th, and 9th, the barometer was higher than the observer ever before saw it; the highest was on the 8th. This great atmospheric wave did not seem to produce any effect on the health of the community. 20th.—There was a severe thunder-storm last night; between midnight and 2 a. m. this morning the wind changed suddenly to the northwest. At 9 o'clock last night the thermometer indicated 65° ; at 7 this morning 10° . The prevailing diseases of the month, in this section of country, have been of an inflammatory character, with occasional cases of diphtheria—none of them extremely malignant.

Spiceland, Indiana.—January 8.—At 10 a. m. the barometer stood half an inch higher than at any former period since June, 1861, when the observer began to keep a record. 20th.—There was considerable rain, with lightning, thunder, and some hail, about the middle of last night, and a little snow between then and daylight. The thermometer yesterday, at 2 and 9 p. m., stood at 61° , and about 9 o'clock this morning at 5° .

Richmond, Indiana.—January 8.—Barometer reached its maximum at 9 o'clock this morning. 20th.—Yesterday was a very warm day, and it became warmer after night, with frequent flashes of lightning across the west. At 11 p. m. the thermometer was 63° , the highest the observer ever saw it in January. At this time there was a heavy cloud across the west, and the vivid flashes of lightning were followed by heavy thunder, while a strong south wind blew so warm that a person might imagine himself in the middle of summer; rain and hail, and afterwards snow, from 11.30 p. m. till between 2 and 3 this morning. The thermometer fell fifty-six degrees in eight hours, and the barometer fell .603 in the same time; the most rapid change the observer has on record.

Dubois, Illinois.—January 11.—Depth of frost in the ground six inches; thickness of ice on ponds and creeks, four inches. 15th, heavy thunder in the west from 8 to 10 a. m.; a violent storm of wind from the west from 2 a. m. till 6 p. m. 19th, exceedingly warm for the season; temperature at 11 a. m. 70° ; frost nearly all out of the ground; wild geese and ducks flying north; diffuse lightning in the southwest at 5 p. m.; terrific thunder-storm at $6\frac{1}{2}$ p. m. from the west, the wind blowing a violent gale—changed to the northwest at 8 p. m.; commenced snowing and sleeting, and became intensely cold; the thermometer indicated 62° at 5 p. m.; and on the 20th, at 5 a. m., 3° below zero—a fall of sixty-five degrees in twelve hours. 23d, diffuse lightning in the south at $4\frac{1}{2}$ p. m., with distant thunder. 29th, blue birds singing like spring.

Golconda, Illinois.—January 19.—At 10 p. m. the thermometer stood at 70° , very close and oppressive, with appearance of a heavy storm in the northwest; at $10\frac{1}{2}$ the storm burst; very sharp lightning with heavy and quick thunder, and for a short time heavy hail. At $11\frac{1}{2}$ the storm was over and the sky clear, and thermometer 28° . At 4 o'clock next morning the thermometer was 10° .

Marengo, Illinois.—January 8.—Barometer the highest ever observed at this station. 19th, snow from 4 p. m. to 9 p. m., four inches.

Manchester, Illinois.—January 19.—Thunder about from 7 p. m. to 11 p. m., with very vivid lightning from the west.

Augusta, Illinois.—January 15.—Shower, accompanied with some thunder and lightning, between 4 and 5 p. m. 19th, a mist from 9 a. m. to 1 p. m., then sleet or hail, and, at last, snow. 23d, snow twelve to fifteen inches deep; good sledding to the 29th, and rather poor to the 31st.

Winnebago, Illinois.—January 8.—The barometer at 7 o'clock this morning was .460 inches higher than any previous observation recorded here, and more than an inch above its normal height at this station. 15th, first sleighing this season. 19th, heavy fall of sleet or frozen rain from 3 to 7 p. m.

Clinton, Illinois.—January 12.—Lightning in the east a little after sundown. 19th, lightning and thunder, commencing at 6.30 p. m.

Aurora, Illinois.—January 8.—The barometer to-day stood higher than the observer ever saw it before in this vicinity. 19th, diffuse lightning in the southwest, with some distant thunder; it rained at the time, and the wind was strong from the west. The ground is frozen to the depth of fifteen inches.

Springfield, Illinois.—January 19.—At 6 p. m. rain, sleet and snow, with heavy thunder and vivid lightning. The storm was one of the most severe thunder-storms that has occurred for a year.

Chicago, Illinois.—Heavy thunder-storm on the night of the 19th. The storm having been extensive and severe in distant places, many of the trains on the railroads were detained on Saturday, the 20th, for several hours, by the accumulation of ice and drifting of snow on the tracks.—*Newspaper.*

Chicago, Illinois.—The temperature at 9 p. m. on the 19th was 24°; at 7 a. m. the next day—10°.

Mount Sterling, Illinois.—"No thunder-storm this month in this place."

St. Louis, Missouri.—January 12.—This morning the ice in the river opposite the city moved about a hundred and fifty yards, destroying two boats. The river is gorged above and below the city. 19th, wind from southwest about 4½ p. m., continually increasing till about 7 p. m. Rain, hail, or snow from 6 p. m. till late in the night; one long roll of thunder at 6.20; saw no lightning.

Canton, Mo.—Jan. 31.—There has been good sleighing ever since the 19th.

Harrisonville, Missouri.—January 15.—About 3½ a. m. commenced heavy thunder and lightning in the southeast, accompanied with some hail and rain; became more distant towards the southwest by 5 a. m., and died off about 6½ a. m.

Athens, Missouri.—The month of January has been rather remarkable; a great deal of snow and rain fell; the usual January thaw occurred with greater force than common. On the 12th, at 9 p. m., the Des Moines river broke up, ice nine inches thick; water rose ten feet. The ice gorged here on the 14th. Heavy lightning, accompanied by deep thunder, with sleet and rain, at 7 a. m. on the 15th. On the 18th, at 11 p. m., shock of an earthquake for five minutes from southwest to northeast.

Rocky Run, Wisconsin.—The 20th was the coldest day of the month; thermometer below zero all day; also below zero on the mornings of the three following days.

Baraboo, Wisconsin.—January 31.—The weather for the month has been mild and pleasant, with but three or four extremely cold days. Since the 11th sleighing has been very fine. High winds were less in December and January than for the past eighteen years.

Embarrass, Wisconsin.—January 4.—The Wolf and Embarrass rivers frozen over. 8th, the ground frozen sixteen inches deep. 19th, thermometer 20° at 9 p. m., and 14° below zero next morning.

Beloit, Wisconsin.—The height of the barometer at 7 a. m. on the 8th is almost unparalleled in this section.

Manitowoc, Wisconsin.—Thermometer at 9 p. m. on the 19th 17°, next morning 17° below zero.

Delavan, Wisconsin.—January 8.—The barometer the highest noticed within nearly three years.

Milwaukee, Wisconsin.—January 8.—At 10 a. m. the barometer reached its maximum, a quarter of an inch higher than ever before known here.

Plymouth, Wisconsin.—January 19.—Lightning from 6 p. m. to about 9 p. m.

Minneapolis, Minnesota.—Greatest depth of snow for many years, forty-three and three-quarter inches having fallen in December and January.

Forest City, Minnesota.—January 18.—During the day the thermometer changed several times, varying from 10° below zero to 6° above zero in thirty minutes. The temperature was below zero on every day from the 16th to the 22d inclusive.

Sibley, Minnesota.—January 19.—Snow every day, except one, from the 9th to the 19th inclusive. On the 19th there was a severe storm, with heavy

wind, so that objects could not be distinguished ten feet distance. The thermometer sunk to 27° below zero, and a good many persons were badly frozen. Three men perished in this place by being lost or bewildered within a few rods of their own houses. The thermometer was below zero every day from the 16th to the 22d inclusive.

New Ulm, Minnesota.—Thermometer below zero every day from the 16th to the 22d inclusive.

St. Paul, Minnesota.—Thermometer below zero every day from the 16th to the 22d inclusive; also on the 14th and 24th.

Afton, Minnesota.—January 21.—The deepest snow that has been for twenty-seven years. Thermometer below zero every day from the 16th to the 22d; also on the 14th and 24th.

Davenport, Iowa.—Thermometer below zero only at 9 p. m. on the 19th and all day on the 20th.

Muscatine, Iowa.—January 8.—At 9 a. m. the barometer was higher than it has been for many years. The thermometer was below zero only at 7 a. m. of the 5th, 9 p. m. of the 19th, all day on the 20th, and 7 a. m. on the 25th.

Dubuque, Iowa.—January 8.—Unprecedented rise in the barometer. It culminated at 11 a. m., reaching 30.459, (reduced to 32°.) It has never been but slightly above thirty inches during the past fifteen years that the observer has kept a record, and then only three or four times, and but part of a day. On this occasion it remained for three days above thirty inches. A very unusual occurrence also is the presence of clouds with so great a pressure of the atmosphere. 19th, brisk snow-storm, with high northwest wind, and some sleet from 3.30 p. m. to 5 p. m.; wind blew a gale all night from northwest. Temperature below zero only at 7 a. m. on the 18th, 9 p. m. on the 19th, and all day on the 20th.

Des Moines, Iowa.—The weather during the former part of the month was delightful, the sky almost entirely cloudless, and the slightest perceivable wind.

Mount Vernon, Iowa.—The thermometer below zero only on the 5th, 18th, 19th, and 20th.

Fort Madison, Iowa.—January 17.—Wild geese going north at 9 a. m. Thermometer below zero only at 7 a. m. of the 20th.

Lyons, Iowa.—No observation recorded below zero during the month, and only once at zero, at 7 a. m. on the 16th.

Manchester, Iowa.—January 29.—Ground frozen three feet deep; snow on the ground about seven inches; there has been excellent sleighing for near three weeks.

Clinton, Iowa.—January has been a fine winter month, with a few disagreeable days; for the most part rather mild and very pleasant winter weather. Good sleighing from the 16th to the end of the month. Thermometer below zero only at 7 a. m. of the 1st and 4th. At zero on the 5th, 18th, 19th, and 21st.

Fort Riley, Kansas.—Thermometer below zero only on the 19th and 20th; at zero on the 18th.

Olathe, Kansas.—On the night of the 14th and morning of the 15th a heavy shower, accompanied with thunder and lightning. Thermometer below zero only in the night of the 19th and morning of the 20th.

Atchison, Kansas.—Jan. 11.—Diffuse lightning in the south and southeast during the evening. 19th, severe snow and wind storm all day, blowing a gale from the northwest. Thermometer below zero only on the 18th, 19th, and 20th.

Elkhorn City, Nebraska.—January was stormy and cold, except the last few days. The thermometer was below zero on each day from the 16th to the 21st inclusive, but on no other day.

Belleue, Nebraska.—Most of the snows drifted very much, and the sleighing was not very good. Thermometer below zero on each day from the 16th to the 21st inclusive, and on no other day.

Great Salt Lake City, Utah.—The 19th (mean temperature 19°) was the coldest day of the month, except the 1st, 4th, 5th, and 15th.

Temperature and wind at 7 a. m. from the 5th to the 10th of January, 1866.
(Fractions of a degree are omitted in the following table.)

Place.	January 5.		January 6.		January 7.		January 8.		January 9.		January 10.	
	Tem.	Wind.	Tem.	Wind.	Tem.	Wind.	Tem.	Wind.	Tem.	Wind.	Tem.	Wind.
NOVA SCOTIA.												
Wolfville.....	17	W.	-4	W.	-10	NW.	-5	NE.	5	NW.	16	NE.
MAINE.												
Steuben.....	-7	NW.	-15	NW.	-20	NE.	-15	NE.	5	N.	11	N.
Lee.....	-10	NW.	-22	NW.	-23	NW.	-20	NW.	1	N.	2	NE.
West Waterville.....	-10	NW.	-13	NW.	-23	N.	-11	N.	10	N.	20	N.
Gardiner.....	-10	NW.	-12	NW.	-18	NE.	-17		9	NE.	14	
Lisbon.....	-10	NW.	-13	N.	-18	N.	-18	N.		N.		N.
Webster.....	-8	NW.	-11	NW.	-16	N.	-16	NW.	3	N.	19	NW.
Standish.....	-8	NW.	-9	NW.	-17	N.	-12	N.	12	N.	22	N.
Cornish.....	-10	NW.	-8	NW.	-16	NE.	-14	NW.	12	NW.	22	NW.
Cornishville.....	-10	W.	-10	NW.	-16	NE.	-18	W.	12	W.	24	W.
NEW HAMPSHIRE.												
Stratford.....	-23	NW.	-23	0	-33	0	-27	N.	-10	0	-5	N.
Shelburne.....	-12	W.	-13	W.	-17	W.	-18	W.	5	W.	15	W.
North Barnstead.....	-10	NW.	-2	NW.	-9	W.	-15	W.	6	W.	18	W.
Claremont, (Mead).....	-12	NW.	-12	NW.	-10	NW.	-20	N.	-6	NW.	8	NW.
Claremont, (Chase).....	-12	N.	-4	W.	-12	N.	-20	NW.	-6	W.	8	N.
VERMONT.												
Lunenburg.....	-17	N.	-22	N.	-31	N.	-26	N.	-17	N.	-6	NE.
Craftsbury.....	-23	NW.	-18	W.	-24	NE.	-25	N.	-12	SW.	-4	0
Middlebury.....	-16	N.	-13	N.	-21	N.	-18	N.	-1	N.	8	N.
Brandon.....	-2	NW.	-2	N.	-20	N.	-5	N.	-4	N.	8	NW.
Randolph.....	-14	NE.	-8	NE.	-20	NE.	-17	NE.	-8	NE.	-2	NE.
MASSACHUSETTS.												
Lawrence.....	2	NW.	8	SW.	-7	NE.	-15	NW.	5	NW.	18	NW.
Topsfield.....	9	NW.	18	SW.	6	NW.	-1	NW.	15	NW.	20	NW.
Georgetown.....	-5	NW.	9	N.	-7	NE.	-16	NE.	4	NW.	16	NW.
Newbury.....	-4	NW.	8	NW.	-6	N.	-16	NW.	2	NW.	9	NW.
Cambridge.....	-2	NW.	8	SW.	-2	NE.	-17	N.	4	N.	17	N.
New Bedford.....	5	NW.	17	SW.	8	NW.	-11	NW.	10	NW.	20	NW.
Worcester.....	1	NW.	3	SW.	2	NE.	-15	NW.	5	NW.	20	NW.
Mendon.....	6	NW.	11	SW.	5	NE.	-17	NW.	12	N.	25	NW.
Amherst.....	-1	NW.	10	SE.	0	N.	-14	NW.	4	N.	19	N.
Westfield.....	0		10		1		-16		3		12	
Richmond.....	-10	NW.	10	NW.	-12	NW.	-18	NW.	-10	NW.	12	NW.
Williamstown.....	-7	NW.	9	NW.	-6	NW.	-17	NW.	-3	NW.	5	NW.
RHODE ISLAND.												
Newport.....	5	NW.	18	W.	8	NE.	-6	N.	10	N.	22	N.
CONNECTICUT.												
Pomfret.....	-3	NW.	10	SW.	0	N.	-19	N.	5	N.	19	NW.
Columbia.....	-2	NW.	10	NW.	6	NE.	-20	NW.	0	NW.	24	NW.
Colebrook.....	-11	NW.	8	W.	4	NE.	-25	NW.	-4	NW.	13	NW.
NEW YORK.												
Moriches.....	12	NW.	17	W.	18	N.	-10	N.	10	N.	22	NW.
South Hartford.....	-8	S.	-11	NE.	-17	NE.	-19	NE.	-10	N.	9	SW.
Fishkill Landing.....	6	NW.	16	W.	2	NE.	-13	NE.	4	NE.	11	N.
Garrison's.....	3	W.	16	W.	-2	NW.	-16	NW.	1	NE.	12	NW.
Throg's Neck.....	5	N.	14	W.	16	N.	-14	NE.	3	NE.	16	N.
New York, (D. and D. Inst.).....	10	NW.	20	W.	20	N.	-13	N.	6	NW.	17	NW.
New York, (Col. College).....	7	NW.	16	W.	14	NW.	-13	NW.	6	NW.	14	NW.
Newburgh.....	5	NW.	19	W.	-2	NE.	-15	NE.	5	NE.	13	NE.
Gouverneur.....	-22	0	-18	NE.	-28	NE.	-24	SW.	-17	SW.	-5	SW.
Oneida.....	-12	E.	0	E.	-10	W.	-20	W.	-4	W.	11	W.
Theresa.....	-22	SE.	-18	NE.	-22	NE.	-21	NE.	-18	SE.	-4	SE.
Depauville.....	-13	E.	-10	NE.	-16	N.	-14	N.	-8	NW.	-2	S.
Oswego.....	-8	E.	-2	N.	-9	NE.	-8	N.	1	N.	11	E.
Palermo.....	-16	NE.	-11	N.	-18	N.	-20	N.	-10	NW.	5	NE.
Baldwinsville.....	-3	E.	-4	NW.	-14	N.	-18	N.	-5	N.	14	W.

Temperature and wind at 7 a. m. January 5-10, 1866—Continued.

Place.	January 5.		January 6.		January 7.		January 8.		January 9.		January 10.	
	Tem.	Wind.	Tem.	Wind.	Tem.	Wind.	Tem.	Wind.	Tem.	Wind.	Tem.	Wind.
NEW YORK—Continued.												
Skaneateles.....	—3	N.	—2	N.	—15	N.	—19	N.	—6	NW.	16	W.
Nichols.....	2	NW.	17	NW.	2	NW.	—12	N.	—2	S.	8	N.
Geneva.....	1	W.	6	NE.	—5	N.E.	—12	N.E.	3	W.	8	S.
Rochester, (Dewey).....	3	S.	12	SE.	—2	.....	—3	S.	—4	S.	4	S.
Rochester, (Mathews).....	4	SW.	14	NW.	—2	.....	—3	NW.	—3	0	4	NW.
Jamestown.....	2	N.	10	NW.	0	N.	—17	N.	—7	N.	—6	S.
NEW JERSEY.												
Paterson.....	7	NW.	16	W.	17	NW.	—13	N.	5	N.	14	NW.
New Brunswick.....	6	W.	13	W.	16	N.	—12	N.	3	N.	17	N.
Trenton.....	11	NW.	18	W.	20	N.	—12	N.	6	N.	20	NW.
Burlington.....	9	NW.	14	W.	23	N.E.	—8	N.	5	N.	18	N.
Moorestown.....	7	NW.	14	W.	23	N.	—12	N.	5	NW.	17	NW.
Mount Holly.....	12	NW.	17	NW.	23	N.E.	—9	N.	5	N.	19	NW.
Haddonfield.....	8	NW.	14	SW.	23	N.	—12	N.	5	NW.	17	NW.
Greenwich.....	12	NW.	14	NW.	27	0	—9	N.	7	N.	18	N.
PENNSYLVANIA.												
Blooming Grove.....	—5	NW.	8	0	7	N.	—23	N.	—4	N.	4	0
Fallington.....	11	NW.	16	W.	22	E.	—9	N.	7	NE.	21	N.
Philadelphia.....	14	NW.	16	SW.	25	N.E.	—8	NW.	8	NW.	19	NW.
Germanstown.....	6	N.	7	NW.	20	W.	—13	NW.	5	N.	15	N.
Moorland.....	7	NW.	10	S.	20	W.	—12	W.	6	W.	15	W.
Dyberry.....	—4	NW.	10	W.	7	N.	—22	N.	—6	N.	3	N.
Nazareth.....	4	NW.	17	SW.	13	N.E.	—11	NW.	8	NW.	22	NW.
Ephrata.....	6	NW.	5	NW.	22	N.E.	—9	NW.	9	NW.	18	NW.
Silver Spring.....	6	0	6	0	21	0	—6	NW.	10	N.	16	NW.
Mountjoy.....	14	NW.	11	.....	15	NW.	—5	NW.	5	NW.	22	.....
Harrisburg.....	17	NW.	17	NW.	27	N.E.	—2	N.	12	N.	22	N.
Tioga.....	0	NW.	18	NW.	3	N.	—12	0	—10	0	—10	W.
Pennsville.....	5	0	9	0	10	N.	—24	0	—2	0	5	W.
Connellsville.....	7	W.	16	SW.	22	NW.	—12	N.	—4	N.	4	E.
Canonsburg.....	6	NW.	16	NW.	16	E.	—7	E.	—3	NE.	6	0
Byberry.....	8	W.	.....	NW.	.....	N.	—11	NW.	6	W.	19	W.
Siegfried's Bridge.....	0	NW.	15	W.	16	NW.	—13	NW.	3	0	17	0
Lewistown.....	3	.....	17	.....	12	NW.	—7	W.	7	N.	7	.....
Parkerville.....	8	NW.	7	NW.	22	N.E.	—10	N.	7	N.	18	NW.
MARYLAND.												
Woodlawn.....	10	N.	10	NW.	26	N.E.	—7	N.	8	N.	20	N.
Annapolis.....	15	NW.	10	SW.	26	N.E.	—5	N.E.	8	N.E.	21	NW.
St. Inigoes.....	16	N.	12	W.	35	NW.	—8	N.	15	NW.	25	N.
Catonsville.....	10	W.	10	SW.	25	N.	—7	N.E.	10	N.E.	22	NW.
DISTRICT OF COLUMBIA.												
Washington.....	17½	.....	17	.....	30	.....	—2	.....	12	.....	21	.....
VIRGINIA.												
Wytheville.....	8	W.	18	W.	39	W.	9	N.E.	15	W.	23	.....
WEST VIRGINIA.												
Cabell Court-house.....	21	.....	18	.....	14	.....	3	.....	6	.....	14	.....
GEORGIA.												
Atlanta.....	17	NW.	22	NW.	22	NW.	35	N.	15	NW.	21	N.
MISSISSIPPI.												
Natchez.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
ARKANSAS.												
Helena.....	21	N.	32	N.	37	E.	41	SE.	28	E.	33	SE.
TENNESSEE.												
Clarksville.....	17	SE.	26	SE.	32	SE.	17	N.E.	16	N.E.	24	S.
KENTUCKY.												
Louisville.....	8	0	22	S.	30	0	5	S.	5	0	25	E.
Danville.....	9	NW.	26	W.	32	SW.	8	N.E.	8	N.E.	28	S.
London.....	7	0	.....	.....	24	SW.	8	N.	6	N.E.	16	0

Temperature and wind at 7 a. m. January 5-10, 1866—Continued.

Place.	January 5.		January 6.		January 7.		January 8.		January 9.		January 10.	
	Tem.	Wind.	Tem.	Wind.	Tem.	Wind.	Tem.	Wind.	Tem.	Wind.	Tem.	Wind.
OHIO.												
Austinburg.....	18	NW.	12	S.	10	NE.	-3	NE.	-10	S.	18	S.
Saybrook.....	9	W.	13	NE.	13	NE.	-1	SW.	-8	S.	10	S.
New Lisbon.....	10	NW.	18	SW.	18	N.	-2	NE.	0	NW.	5	NW.
East Fairfield.....	9	NW.	14	SW.	17	NE.	-3	NE.	3	W.	10	SE.
Steubenville.....	11	NW.	18	SW.	22	NW.	-6	NW.	4	NW.	9	NW.
Milnersville.....	9	NW.	20	SE.			-3	N.	-2	SE.	9	SE.
East Cleveland.....	11	W.	17	W.	17	N.	5	NE.	0	S.	23	S.
Wooster.....	11		16		16		-2		1		16	
Gallipolis.....	11	W.	18	S.	28	SW.	1	NE.	3	E.	13	S.
Kelley's Island.....	13	W.	18	SE.	18	NE.	13	N.	3	SW.	9	SW.
Norwalk.....	13	SW.	18	S.	16	NE.	8	E.	3	NE.	23	SW.
Westerville.....	10	N.	11	SW.			-2	N.	17	N.	19	NW.
Kingston.....	9	W.	18	S.	26	E.	0	NE.	2	S.	20	SE.
Toledo.....	13	SW.	16	SW.	15	N.	-1	NE.	4	SW.	23	SW.
Marion.....	9	W.	14	S.	17	NE.	-1	E.	0	SW.	18	SE.
Urbana.....	4	W.	19	S.	19	NW.	-2	E.	0		21	S.
Hillsboro'.....	6	SW.	16	SW.	23	NE.	-2	NE.	4	NE.	19	SE.
Ripley.....	10		20		20	N.	3	NW.	6		21	W.
Bethel.....	6	W.	19	S.	26	NE.	0	NE.	3	NE.	21	SE.
Cincinnati.....	8	W.	20	W.	25	NE.	2	NE.	6	NE.	24	E.
College Hill.....	6	S.	18	NW.	23	NE.	2	NE.	4	SW.	23	S.
MICHIGAN.												
Monroe.....	14	NW.	21	W.	14	NE.	-8	NE.	5	SW.	21	SW.
Lansing.....	11	NW.	14	SE.	6	NE.	-6	E.	-7	SE.	24	SW.
Homestead.....	10	NW.	14	N.	-5	NE.	-16	NE.	8	SW.	26	SE.
Holland.....	13	W.	12	E.	1	E.	-4	NE.	-9	SE.	26	S.
INDIANA.												
Vevay.....	4	W.	13	SW.	28	NE.	4	NE.	2	NE.	25	SE.
Richmond.....	3	W.	11	SW.	23	NE.	1	E.	2	E.	23	S.
Spiceland.....	3	SW.	20	SW.	21	NE.	2	NE.	8	S.	24	S.
Columbia.....	-4	W.	12	W.	-3	NE.	-2	NE.	-4	SE.	30	SW.
Indianapolis.....	3		15		22		4		2		27	
New Harmony.....	13	NW.	30	S.	31	NW.	13	NE.	30	E.	30	SW.
Balbec.....	3	W.	18	SE.	19	NE.	-1	NE.	-2	SE.	25	W.
Aurora.....	5	NW.	19	NW.	26	NW.	0	NE.	2	E.	20	S.
ILLINOIS.												
Chicago.....	-8	NW.	22	SW.	16	SE.	4	SE.	8	S.	24	SW.
Evanston.....	-3	NW.	18	SE.	21	NE.	12	SE.	12	SW.	31	SW.
Marengo.....	-4	SW.	9	E.	15	NE.	7	NE.	8	SE.	30	S.
Riley.....	-4	W.	15	E.	15	NE.	4	E.	6	S.	32	S.
Aurora.....	-5	W.	15	S.	19	E.	4	E.	6	SE.	31	S.
Sandwich.....	-4	W.	10	SW.	17	NE.	0	E.	5	SE.	32	S.
Ottawa.....	-2	W.			20	NE.	5	NE.	11	SW.	32	S.
Winnebago.....	-4	W.	10	NE.	14	NE.	6	E.	7	SE.	32	S.
Wyanet.....	-4	NW.	26	SE.	23	NE.	5	E.	9	SE.	33	SW.
Tiskilwa.....	0	NW.	22	SE.	23	NE.	5	E.	10	E.	32	SE.
Elmira.....	-3		22		21		6		14		31	
Peoria.....	-4	W.	28	S.	23	N.	9	S.	16	S.	24	S.
Springfield.....	7	W.	26	SE.	18	E.	10	NE.	14	SE.	30	S.
Dubois.....	4	NW.	26	SE.	28	W.	15	SE.	22	SE.	32	SE.
Galesburg.....	0	NW.	22	SE.	20	E.	4	SE.	12	SE.	32	SW.
Angusta.....	2	SW.	32	S.	21	E.	8	E.	21	SE.	34	S.
Manchester.....			27	SE.	21	NW.	10	E.	14	E.	36	S.
Clinton.....	0	NW.	27	SW.	17	NE.	9	E.	16	SE.	35	S.
Golconda.....	14	NW.	24	W.	25	W.	20	N.	18	NE.	27	S.
Mount Sterling.....	2	SW.	28	SE.	24	NE.	8	E.	16	E.	32	SE.
Loami.....	0	SW.	25	SW.	21	NE.	8	NE.	13	SE.	32	SE.
WISCONSIN.												
Manitowoc.....	-5	NW.	15	N.	15	N.	16	SE.	18	SW.	23	S.
Milwaukee, (Lapham).....	-5		14		15		16		14		30	
Milwaukee, (Winkler).....	-3	W.	5	NW.	14	NE.	14	SE.	14	S.	28	S.
Ripon.....	-8	W.	15	NE.	13	NE.	15	SE.	17	SE.	33	SW.
Delavan.....	-5	NW.	10	E.	14	NE.	12	E.	8	S.	30	S.
Waupaca.....	-5	NW.	5	NE.	8	NE.	10	SE.	12	SE.	30	S.
Weyauwega.....	3	NW.	14	NE.	16	N.	19	NE.	19	SE.	34	S.
Embarrass.....	-12	NW.	10	NW.	10	N.	12	NW.	18	S.	28	S.
Rocky Run.....	-2	NW.	13	NE.	13	NE.	13	SE.	12	S.	33	S.

Temperature and wind at 7 a. m. January 5-10, 1866—Continued.

Place.	January 5.		January 6.		January 7.		January 8.		January 9.		January 10.	
	Tem.	Wind.	Tem.	Wind.	Tem.	Wind.	Tem.	Wind.	Tem.	Wind.	Tem.	Wind.
WISCONSIN—Continued.												
Baraboo.....	4	W.	16	NE.	16	E.	16	SW.	20	S.	36	W.
Beloit.....	— 3	W.	14	0	15	NE.	10	E.	8	SE.	33	S.
Plymouth.....	— 8	NW.	12	SE.	14	NE.	14	SE.	10	S.	28	SW.
Odamah.....												
MINNESOTA.												
Beaver Bay.....												
Afton.....	—10	SW.	6	NE.	—4	N.	—2	SE.	19	SE.	30	E.
St. Paul.....	— 8	SE.	7	N.	2	E.	—2	SE.	20	SE.	31	SE.
Minneapolis.....	—11	S.	4	NE.	—5	E.	—2	SE.	17	S.	29	SE.
Forest City.....	— 7	W.	6	NE.	6	E.	12	SE.	24	SE.	30	
Sibley.....	— 7	E.	4	NE.	—3	E.	6	E.	20	SE.	33	SE.
New Ulm.....	— 3	S.	8	N.	0	E.	10	E.	24	S.	36	E.
Bowles Creek.....	—10		6		—6		5		19		30	
IOWA.												
Clinton.....	0	NW.	15	E.	18	E.	3	NE.	10	SE.	24	SE.
Davenport.....	4	NW.	24	SW.	18	E.	9	NE.	15	SW.	32	SW.
Dubuque.....	1	NW.	18	0	17	E.	12	0	18	SE.	36	S.
Muscatine.....	— 3	0	24	S.	19	E.	17	SE.	18	S.	33	S.
Fort Madison.....	1	W.	28	SW.	24	NE.	7	SE.	20	SE.	33	SW.
Guttenberg.....	— 4	W.	13	E.	13	NE.	8	E.	16	SE.	33	S.
Ceres.....	— 5	0	12	0	14	SE.	5	SE.	16	SW.	32	SW.
Manchester.....	—10	SW.	12	SE.	16	NE.	2	SE.	14	SE.	32	SW.
Mount Vernon.....	— 3		19		18		8		18		34	
Iowa City.....	0	SW.	20	SW.	21	NE.	10	NE.	28	SE.	34	SE.
Independence, (Wheaton).....	—12		10		13		1		15		33	
Independence, (Deering).....	0		18		4		6		17		34	
Waterloo.....	— 1		16		16		18		26		36	
Iowa Falls.....	5	E.	18	NE.	14	SE.	16	SE.	23	SE.	32	SE.
Des Moines.....	5	SW.	20	NW.	24	E.	18	E.	26	SE.	37	SW.
Monticello.....	—10	SW.	12	SE.	16	NE.	2	SE.	14	SE.	32	SW.
Lyons.....	6	0	18	0	15	NE.	2	E.	2	SE.	32	SE.
MISSOURI.												
St. Louis.....	23	NE.	—34	S.	28	NE.	20	NE.	21	E.	37	SE.
Athens.....	38	W.	34	E.	30	N.	12	E.	26	E.	33	E.
Canton.....	2	S.	30	SE.	26	NE.	9	SE.	28	SE.	35	SE.
Harrisonville.....	12	E.	32	SW.	34	NE.	28	E.	30	SE.	42	S.
Easton.....	11	0	35	SW.	24	SW.	22	NE.	30	S.	40	S.
KANSAS.												
Olathe.....	18		36	SW.	27	SE.	29	SE.	30	SE.	41	SW.
Atchison.....	8	SW.	29	SW.	24	SE.	23	N.	29	SE.	40	SE.
Fort Riley.....	27	SW.	32	SW.	28	W.	30	NW.	41	SW.	45	SW.
NEBRASKA.												
Elkhorn City.....	12	S.	17	NW.	24	SE.	21	SE.	31	S.	39	SW.
Bellevue.....	9	S.	29	SW.	27	NE.	30	NE.	34	S.	36	S.
UTAH.												
Great Salt Lake City.....	10	SE.	10	NE.	25	S.	25	SE.	18	E.	26	NW.

MONTHLY REPORT

OF THE

DEPARTMENT OF AGRICULTURE

FOR

MARCH, 1866.

WASHINGTON:
GOVERNMENT PRINTING OFFICE.
1866.

MONTHLY REPORT.

DEPARTMENT OF AGRICULTURE, *March*, 1866.

The increasing fatality of the cattle plague in Great Britain, and the failure of all remedies to cure it, and of local measures to arrest its spreading, has at length forced Parliament to enact laws similar to those of the western German nations, which establish the complete isolation of infected places; the destruction and deep burial of all infected cattle; and the complete disinfecture of all things and places where the disease may exhibit itself. The government of Great Britain, in addition, proposes to restrict the moving of cattle—virtually to stop the cattle trade, a measure that has become a necessity there.

The United States consul at Hamburg has notified the Secretary of State of his refusal to allow the importation of a lot of hides to this country, which he had reason to believe came from places where this disease prevails. The importation of queensware or crockery may bring it here by the infection of the straw used in packing it in the crates. In many ways, therefore, the liability of its introduction here is great, and this department has brought the matter to the consideration of Congress, in order that an act may be passed providing for a *cordon* around every case that might arise through importation in the United States.

Should Congress pass such an act, every citizen should be zealous in the enforcement of its provisions, for few greater calamities could befall our people than the existence of the cattle plague in the United States. The only possible way to prevent its spreading, should it come, is by the enforcement of the law no matter what inconvenience may be occasioned to individuals.

The existence of a sickness often fatal in Germany, produced by eating pork, affected with a disease known as trichinis, has led to fears in this country, lest pork here might occasion a like disease. This department has given its attention to a case of it reported as originating in Detroit, and the present number contains information relating to it, as well as the causes producing the trichinis, together with a suggestion as to a probable preventive—one which, from its good effects in other respects, commends itself to every farmer raising hogs. I am clearly of the opinion that there is no more danger of this disease now than there has been in any previous years.

This number of the monthly report shows the amount of farm stock stated in tenths, and their prices, in February last, as compared with the amount and prices of January, 1865. It will be seen that the prices of stock, except sheep, have rather advanced than receded, because of their scarcity and the demand for them

in the south. This is just what I predicted eighteen and twenty-four months ago, when we were urging a greater attention to stock-raising.

In the next report the amount of this stock in numbers will be given, the prices, and the value of each kind and for each State, in the tables similar to those published last year in the April and May number.

The backwardness of the spring will delay the issuing of the first circular relative to the crops of 1866. It is usually a month after the fall-sown crops have grown enough in the spring to determine their appearance and the injuries received during the winter in the more southern counties of the western States, before that growth is sufficient to determine the condition of these crops in the northern counties and northern States.

The statements relative to the present condition of these crops are, as usual at this time of the year, very conflicting; but it is believed that whilst the severe cold has killed the tops of the wheat, unprotected generally by snow, the roots have not been killed or subjected to heaving out to the extent usual in severe winters, or as apprehended by many persons.

With the approach of the warm weather, a greater activity begins to manifest itself to lessen the fatality of the cholera should it come into the United States, and the suggestions relative to it, in this report, for the protection of the farmer and his household, should be heeded by him.

ISAAC NEWTON,

Commissioner.

THE CHOLERA—THE CATTLE PLAGUE—THE HOG CHOLERA—THE TRICHINIS.

In the February report we asked the attention of the public to one matter relative to the first two of these diseases, namely, the numerous ways in which their atomic particles are disseminated. This was done for two purposes—to invite from the legislation of the country such powers as would be necessary to meet the rinderpest, if it, unfortunately, should be introduced into the United States, and to induce on the part of individuals prompt action in aiding the enforcement of these powers, and such care on their part as would protect themselves from these diseases.

Although the consideration of human diseases does not come within the province of this department; yet, where such consideration serves to more fully unfold the character of the cattle plague, and at the same time aids the farmer to protect himself and family, it is proper to refer to diseases destructive to him and them. And when such a disease as cholera, so fatal in past years, again threatens him, it is a duty we owe to him and his pursuit to call his attention to a few simple facts, that may serve to prevent that imprudent course of self-treatment by which so many lost their lives in former visitations of this epidemic. And by so doing, we will move him to a greater interest, to a more prompt and efficient action, in diseases which affect his stock. In resuming, therefore, our comments on the diseases which are embraced in this article, we state briefly the symptoms of the diseases, and the remedies most efficient and available.

I. CHOLERA.

In what we may have to say of this disease, we confine our remarks to such course of treatment as will aid the farmer to a self-treatment until he can secure medical aid. His remoteness from town in so rapid a disease is often fatal, when not aided by judicious self-treatment.

1. *Symptoms of cholera.*—Dr. Hall, in his Journal of Health, (January number, 1866,) has published a most excellent article on cholera. We take from it these brief extracts, hoping, however, that all who can obtain that number will procure it. Usually the first symptoms is a looseness of the bowels, accompanied by a constant uneasiness, and soon marked by a rapidly increasing weakness. This is our personal experience of the disease in 1832.

“The term ‘looseness,’” says Dr. Hall, “as applied to Asiatic cholera as a premonitory symptom, is simply this: if in cholera times a man passes from his bowels, even but a single time, a dirty, lightish-colored fluid, of consistence and appearance, a few feet distant, of a mixture of half-and-half milk and water, that is a premonition of cholera begun, and he will be dead in perhaps twenty-four hours at farthest; and as the passages become less frequent and of a darker or greener or thicker nature, there is hope of life. It does not require two such passages to make a looseness; one such is a looseness, and a very dangerous one. Nor does it require a gallon in quantity; a single table-spoonful, if it weakens, is the alarm-bell of death in cholera times.”

An unusual costiveness is a dangerous thing, and demands medical advice. And of the "uneasiness" attending this looseness, he says :

"Speaking, then, of that sensation of uneasiness, without acute pain, in the region named ('the belly,') it comes on more decidedly after an evacuation of the bowels. In health, this act is followed by a sense of relief or comfortable-ness; but when the cholera influence is in the atmosphere, even a regular passage is followed by something of this sort, but more and more decided after each action over one in twenty-four hours. The feeling is not all; there is a sense of tiredness or weariness which inclines you to take a seat; to sit down and maybe to bend over a little, or to curl up on a bed. This sensation is coming cholera, and if heeded when first noticed, would save annually thousands."

A marked weakness soon commences, growing constantly and perceptibly greater. It was this, as well as the "looseness and uneasiness," that caused us, under an attack of this disease, to instantly seek a physician, and barely in time to save life.

2. *The remedies.*—What is to be done? Not as hundreds and thousands have done—seek a change of residence, hoping it is an infected atmosphere that causes these symptoms, and to go out of it is to live; on the contrary it is to die. The disease is within you.

"Cholera," says Dr. Hall, "being a disease in which the bowels move too much, the object should be to lessen that motion; and as every step a man takes increases intestinal motion, *the very first thing to be done in a case of cholera is to seek QUIETUDE.* It requires but a small amount of intelligence to put these ideas together, and if they could only be burnt in on every heart this fearful scourge would be robbed of myriads of its victims. There can be no cure of cholera without quietude—the quietude of lying on the back. Perfect quietude on the back is *the first*, the IMPERATIVE, the ESSENTIAL step towards the cure of any case of cholera.

"The *second* step to the making of this quietude more perfect is the binding a cloth around the belly pretty firmly. This acts beneficially in diminishing the room within the abdomen for motion. This bandage should be about a foot broad, and long enough to be doubled over the belly; pieces of tape should be sewed to one end of the flannel, and a corresponding number to another part, being safer and more effective fastenings than pins. If this cloth is of stout woollen flannel, it has two additional advantages—its roughness irritates the skin and draws the blood to the surface from the interior, and by its warmth retains that blood there; thus preventing that cold, clammy condition of the skin which takes place in the last stages of cholera."

Attending every attack of cholera is a desire for water. And to quench this, use ice broken into small pieces, and swallow them; or if ice cannot be had, which generally is the case in the country, drink the coldest water.

Dr. Hall thus sums up his advice :

"The *first* step, then, to be taken where cholera prevails, and its symptoms are present, is to lie down on a bed.

"2. Bind the abdomen tightly with woollen flannel.

"3. Swallow pellets of ice to the fullest extent practicable.

"4. Send for an established, resident, regular physician. Touch not an atom of the thousand things proposed by brains as 'simple' as the remedies are represented to be, but wait quietly and patiently until the arrival of your medical attendant."

And this part which follows is especially applicable to the farmer: it is for

him these brief sentences are written, because he must wait, often, too long for his safety, when depending entirely on medical advice.

"But many of my readers," says Dr. Hall, "may be in a condition, by distance or otherwise, where it is not possible to obtain a physician for several hours, and where such a delay might prove fatal. Under such circumstances, obtain ten grains of calomel and make it into a pill with a few drops of gum water; dry it a little by the fire or in the sun and swallow it down. If the passages do not cease within two hours, then swallow two more of such pills, and continue to swallow two more at the end of each two hours until the bowels cease to give their light-colored passages, or until the physician arrives."

"In many bad cases of cholera the stomach will retain nothing fluid or solid, cold water itself being instantly returned. A calomel pill is almost as heavy as a bullet; it sinks instantly to the bottom of the stomach, and no power of vomiting can return it."

This treatment, excepting the bandage, we have experienced, and know its benefits. To this counsel Dr. Hall adds the following relative to

3. *Preventives*.—"There are none, there never can be, except so far as it may be done by quietude of body and mind, by personal cleanliness, by regular and temperate habits of life, and the use of plain, accustomed, nourishing food."

These things are well advised, but if cholera poison is transmitted in the modes noticed in the last number of these reports, then we have to add another in regard to water drank. It should be boiled, for a boiling heat destroys the vitality of the cholera poison. To personal cleanliness must be added cleanliness of the town or city, and of every place around the farmer's home, especially as to the excrement of the sick with cholera.

But there is a more general view to be taken of preventives. If the vital powers, producing health, are antagonistical to those producing death, then whatever impairs the vigor of the former should be removed. They embrace the preventives named by Dr. Hall, but much more. The purity of the atmosphere, especially of the sick room, must be preserved by ventilation. But we have known persons lose their lives in this wise: They have attended on the sick until exhausted, and then doze in sleep over the bed. In sleep the vital powers act more languidly than when we are awake, and of course less strongly when the body and mind are exhausted by long and anxious watching. In circumstances of this kind, rest should be sought for in a well-aired and healthy room, and with the protection of warm clothing. But we content ourselves with this general reference, because these are things about which the physician may be consulted. Our object is to lay before the farmer such advice as his remoteness from the physician renders necessary. We have but to add, that as soon as the cholera is near, which, for him, we entreat it may never be, that he procure the flannels and medicine recommended and follow the counsel here given.

II. CATTLE PLAGUE.

1. *Symptoms*.—In previous articles we have published the symptoms of this disease. We now recur to this part of our subject for the purpose of impressing on the minds of the public two things: first, that when the first symptom of its presence is perceived, it already has a fatal power over the animal; second, that, therefore, preventive measures are the only reliable ones.

*We have before us an admirable work on this disease, by H. Bourguignon, now of Great Britain, but formerly of France. It is a book of 380 pages, and ought to be republished in this country. Money could be much more usefully expended in this way than by sending commissioners to England to report their views of a disease which must ever be immature compared with those given in this work.

The symptoms, as given by this writer, as well as by others of most diseases, have a fourfold division—first, the period of incubation; second, the period of initiation; third, the period of endurance; and fourth, the period of decline.

We have before said that the first symptom observed is a heaviness in the looks and motions of the animal, followed quickly by muscular quiverings, a refusal of food, and a staring and dead condition of the hair. But these symptoms belong to the second division, that of initiation. To understand the right direction of our efforts, we must look closely into the first division—

Incubation.—When an atomic particle of the disease, so small that it is invisible, is inhaled into the lungs of the animal, it reaches the blood of the lungs, and commences to multiply itself. Silently and unperceived it is performing this work, and occupies a period of from ten to twenty days before any outward indications are usually given of its presence.

“In some animals,” says Mr. Bourguignon, “it scarcely betrays the derangements produced by its morbid operation. They preserve their appetite and their usual looks. A close and attentive observation would alone be able to distinguish some slight alterations in their way of living, in the regularity of their rumination and sleep. But in others there is no mistaking a something irregular and unusual in their appearance and living. The vital state is no longer the same. Thus, an animal which used to be cheerful and familiar becomes silent and solitary; it browses the grass with less eagerness and avidity; it lies down more frequently and longer; it lingers by the side of the hedge and the field, or it wanders about here and there with a listless look, and without any object.”

These slight symptoms of derangement, for all practical purposes, in this country, where no farmer has time to watch his stock closely enough to detect them, may be regarded as too slight to be useful. But the fatal work is done during this stage of the disease. The same writer, describing it, says:

“Soon the elaboration of the virulent miasma in the organic structure changes the quality of the blood and humors, the functions of assimilation and secretion are modified, the nervous centres receive vitiated organic elements and are disturbed in their physiological conditions, and the smitten animal betrays that state of latent uneasiness which he is imperfectly conscious of by a general look of heaviness and stupor, (*tuphos*,) [a Greek word meaning stupor,] which has suggested for this disease its name of typhus.”

When this inward progress of the disease has advanced so far that health must conflict with disease, then the second period, of initiation, commences. A fever ensues, constipation of the bowels, then nature throws the poisonous particles out of the blood upon the inward surfaces—on the lungs and windpipe, or much oftener, on the mouth, throat, stomachs, and intestines. This effort of nature is evinced by a violent diarrhœa. It is the casting out of the system these poisonous atoms, and constitutes the third stage of the disease, the endurance. Usually the system sinks under the effort; it gradually yields, the diarrhœa

becoming offensive, tumors break out on the skin, the eyes are full of thick mucus or matter, the lungs are stopped up, and the animal declines rapidly. This is the fourth and last stage of the symptoms.

It is very obvious that when the atoms of poison have become so multiplied during the first division of these symptoms, they cannot be destroyed in the system, no more than they can in human small-pox or measles. They must be brought out of the blood upon the outward or inward surfaces. The remedies to be applied must aid their expulsion and sustain the system during the time they are being cast out.

2. *Remedies*.—As yet no remedy has been found sufficient to sustain the system in this conflict with the disease. Science has lent all its efforts, but as yet in vain. Practical skill has not been more successful, and experiment has not been fortunate enough to light upon an effectual remedy. Some remedies have, for a time, apparently, been of some utility, but further trial demonstrated their insufficiency. The homœopathic treatment in Holland, and the vaccination in Great Britain, gave some hopes, only to end in disappointment. The following letter, just received from England, refers to another remedy, but its final success remains to be determined :

“CONSULATE OF THE UNITED STATES OF AMERICA,

“*Bristol, February 14, 1866.*

“SIR: A reputed cure for the cattle plague has just been announced in this country, which I append with certain comments and remarks.

“Respectfully, yours,

J. EASTMAN.

“Hon. ISAAC NEWTON, *Commissioner*.”

The following are the references to the cure sent by our consul :

“Lord Leigh professes to have found a cure for the cattle plague. He says that on Friday week the rinderpest broke out on his farm with great violence, and he destroyed 22 valuable animals in the hope of stamping it out. He happened to see, however, a paragraph in the Times stating that Mr. Worms had been successful in treating the disease, and he sent for that gentleman to the Lodge, Egham, Surrey, asking him to come and try his system. Mr. Worms did come, and selected 24 cattle which were infected for treatment, some in the first stage, some further gone, and one so far gone that it had been ordered to be destroyed. The medicine was administered to them by Mr. Worms, and in 24 hours they were all well and taking their food as usual.”

The following is a case of a later date :

“Some further evidence of the efficacy of Mr. Worms’s treatment of the cattle plague, which proved so successful upon Lord Leigh’s herd, is furnished in yesterday’s London papers. It appears that the same treatment has since been tried upon some infected animals in the herd of Baron Rothschild, at Mentmore. In one case the animal had exhibited all the symptoms of the disease for upwards of 48 hours, and Mr. Worms, when he arrived, pronounced it hopeless. However, he administered his specific ; and we are assured that, although the animal may die from exhaustion, the disease appears to have been conquered. In two other instances the treatment was quite successful, and the animals are believed to be out of danger.”

The cure itself, and the mode of administering it, are as follows :

“We are informed that Lord Leigh’s herd of cattle, which was a short time

ago in danger of being devastated by the rinderpest, is now entirely free from that disease, and that this result is attributed by his lordship to the use of the following formula:

"Equal portions of onion, shalot, and garlic. Peel them and pound them together, so that they may be reduced to a fine pulp. Add to this about one-third of their weight of ground ginger. Take asafoetida about two-thirds of the weight of the ginger; pour sufficient water over it to cover it, and allow it to boil, stirring it all the time, so that little or no sediment remains; pour the liquid, which should be over the pulp, and mix thoroughly. Boil some rice in water until it is thoroughly soft, and add the rice-water to the mixture, so that the former may be one and a half times in excess of the latter; mix thoroughly, and allow the whole to cool.

"*Dose*.—For a full-grown animal, a good pint; for a heifer, a good half pint; for a calf, rather less than half pint. Medicine to be given the moment the animal's breath is tainted, and should be repeated in twenty-four hours in very bad cases. Should the animal's bowels be confined after twelve hours, and the stomach swollen, administer to a full-grown animal half a pound, to a calf quarter of a pound, of fresh unsalted lard, made into boluses. If the mouth should be sore, wet it with a pulp made of Seville orange peel boiled.

"*Diet*.—Two hours after medicine the animal to be fed with two or three pints of rice gruel, and during two days nothing else than rice gruel and a little sweet hay."

"His lordship has informed several of the principal veterinary surgeons in Warwickshire of the successful treatment of his cattle with this recipe, and is now in Cheshire, where the cattle plague is raging with great virulence, for the purpose of having the formula tried there. Of course it would be premature to pronounce any opinion at present; but we sincerely hope that Lord Leigh, who is as energetic as he is popular as lord lieutenant of Warwickshire, may have found the means of arresting the dreadful scourge with which the country has been visited, and with which it continues to be so seriously threatened. Lord Leigh lost twenty-two head of cattle before he was put in possession of the means of curing the disease."

Wishing, but not hoping,* that this remedy may prove a cure indeed, we turn to that which to us promises a better hope for success, namely, a preventive.

PREVENTIVES.

These are of two kinds—those which render the animal proof against the effect of the poison of the disease, and those which prevent the poison from a contact with it.

Of the former preventives we propose to consider, first, such as destroy the life of the poison, or its power to propagate itself; and second, such as will destroy the liability of the animal to contract the disease. The first embraces all the disinfectants; the second, vaccination and inoculation.

Whether we regard the atomic particle of poison as a germ capable of reproducing itself, as seeds reproduce the vegetables from which they spring, or as a poison resulting from a perverted secretion of the body, which by chemical change converts a healthy secretion into its own poisonous nature, all have ever

* The Agricultural Gazette (London) of February 24, ten days later, and which has been received since the foregoing was written, says: "The last new remedy, Mr. Worms's onion diet, notwithstanding the frequent testimony which is still borne to its value in the columns of the Times, was shown by Mr. Simonds to have been really ineffective in some of the best attested examples of its successful agency."

hoped to find some means of destroying either the life of the poisonous germ or its chemical power by a substance that may be inhaled with the poison and destroy it, or that may destroy it before being inhaled. "The developed miasms hang suspended in the air; we may, perhaps, one day destroy them, if not in the outer atmosphere, at least in the stalls and sheds where the animals inhale and absorb them." So hopes Mr. Bourguignon; and every substance that might prove a disinfectant has been vainly tried against the cattle plague. The Mark Lane Express (London) says:

"The farmer, in his dismay, is justified in trying every nostrum suggested against the plague. The sheds smell of chloride of lime, the yards reek with chlorine, the beasts' noses are dabbled every morning with tar, or they wear on their horns rings of flannel wet with odorous carbonic acid. Men administer frequent drinks of chloride of potash, chloric ether, and whiskey, or give cayenne pepper, or season the water-troughs with acids, or serve ten drops of arsenicum out of a soda-water bottle. Still, yards full of bullocks are being cleared before our eyes, despite of every such precaution; but brave-hearted to the last, we yet hope that something may turn up."

This experience of Great Britain shows that disinfectants to destroy the power of the poison have proved unavailing, and preventives, which render the animal proof against the poison, have also been tried. These are vaccination and inoculation. The Russians have inoculated the poison into healthy animals, but most of them died. They have taken the poison from the latter and inoculated it to a second set; and the poison from this set, and tried upon a third set, and so on to the tenth lot. The malignity of the poison became less and less, as it was transmitted from the first to the tenth lot. Mr. Bourguignon thus refers to this Russian practice, and its results:

"The first inoculative attempts were very fatal; they caused the death of all the inoculated animals. But it was soon perceived that these grievous results, far from prejudicing the theory, really confirmed it; and that the virus, attenuated in its toxical (poisonous) properties, would prove as effectual as was expected. And truly, in 1854 and 1855, at the Dorpat establishment, the inoculations made with a better selected virus afforded results less disastrous. At Kozau they were still more satisfactory. In fine, passing from experiment to experiment, they arrived at the conclusion that it was necessary to inoculate several heads of cattle, the one after the other, without having recourse to any other virus than the first inoculated, so that they might thereby obtain virus of the second, third, fourth, fifth, and up to the tenth generation. The virus thus attenuated in its morbid effects answered at length every experiment, and oxen thus inoculated could mingle with impunity with diseased cattle.

"At the veterinary establishment of Chalkoff they inoculated, during eight meetings, 1,059 animals, with virus of the third generation, and the results were as satisfactory as could be wished for, only sixty animals having sunk under the effects of this preventive operation."

We have not seen any account of experiments in Great Britain by inoculation. The only hope that Mr. Bourguignon has is in this preventive, but, as he says, some day we may, perhaps, destroy the miasms in the stalls and sheds, and, therefore, as said by the Mark Lane Express, the farmer needs to try everything.

We have noticed the present condition of this class of preventives, that all may see the absolute necessity of relying on the other kind of preventives,

those of the second class of our first division, to prevent the poison from contact with the animal. About these we have fully spoken heretofore. The most effectual one is "*the cordon*," strengthened by the most rigid measures to render it effectual.

III. THE HOG CHOLERA AND TRICHINIS.

The rinderpest is not more fatal to the ox than these diseases are to the hog. Hundreds of thousands of dollars have been lost to this country by the hog cholera—as it is most generally called but by some, the hog erysipelas. No legislation has been had to prevent the driving through healthy districts droves of hogs which have the cholera, and thus the disease has been spread over nearly the entire United States.

It is caused by an animal poison; but whether, like the small-pox and cattle plague, inhaled into the blood, or, like that of human cholera, swallowed into the digestive canal, is not satisfactorily determined. But from the rapidity of its action, and the freedom from eruptions on the skin, it is, perhaps, more a disease of the intestinal canal than of the blood. It presents, however, many characteristics of the erysipelas.

1. *Symptoms*.—The hog is noticed to eat less eagerly, to stop and go to a branch or other place where it can get water; to drink eagerly, then to commence vomiting, which continues and is followed by severe purging. Death usually occurs in a day or two.

2. *The remedy and preventive*.—No certain remedy is yet known; but such as affords some promise, we mention.

We take from the Louisville Industrial and Commercial Gazette the following:

"*Cure for the hog cholera*.—Take ten grains of calomel, ten grains of copperas, and ten drops of turpentine. Give it in slop; or if the hog will not eat the slop, drench him.

"This remedy has been used with great success. Farmers who used it as a preventive have never lost any hogs by cholera, and it is a certain cure if the animal is able to swallow it."

Although we have no other knowledge of this remedy than the statement of the *Gazette*, yet our own experience in the use of copperas encourages us to hope much for it.

At one time our farm was surrounded with this disease, and all our neighbors lost their hogs—one of them more than a hundred head. These had access to our own, there being nothing but the rail-fence separating them. We had about 60 head, and not one of them had the disease, and it never was on the farm. The hog is subject to two evils, lice and intestinal worms, both of which are very unfavorable to his thrift. We salted the hogs twice a week with a mixture composed of three parts of salt, two of pulverized brimstone, and one of copperas, or nearly in that proportion, commencing with smaller portions of the last two, and increasing them as the hog would take them. The good effect of this "combination" was seen in freedom from lice, and, when butchered, from intestinal worms. We have always believed that the copperas acted

as a preventive against the cholera; and seeing in the above remedy the same ingredient, we are disposed to think well of it.

But we have referred to the use of copperas for another purpose, too. It will presently be seen that there is much reason to fear the introduction of the trichinis in this country; and should it be here now, or in future, we hope much that it may be as efficient against the trichinae worm as against the more common intestinal worms.

We publish the following communication, having no faith in the supposed cause or remedy. But in so great a scourge as the hog cholera, we must not forget what the *Mark Lane Express* says of the cattle plague: "The farmer, in his dismay, is justified in trying every nostrum suggested:"

"LEBANON, KY., February 16, 1866.

"DEAR SIR: I mentioned in my last that I would send you a remedy for the hog cholera. It is not by dosing a hog with medicine, but by taking the *black teeth* from his jaws, that will cure him. I enclose you a tooth that was taken from my brother-in-law's hog in the incipient stage of the disease but a few days ago. I am told the hog is cured. You will observe a black spot in the inner surface. After the disease had made some progress the entire tooth became *black*. A little boy made the discovery in a pet pig that was lying upon the ground nearly dead, and the father of the boy knocked out seven black teeth from the jaws of the pig, and it was entirely well in two days. The man's name is Dition. He is an indigent, illiterate shoemaker, but has the character of industry and honesty. I have had a conversation with him since I wrote you. He lives in the town of Bradfordsville, in this county, (Marion.) The discovery was made two years ago, and in no instance has he failed in effecting a cure when all the affected teeth were taken from the hog's jaw. The disease should be named black tooth.

"J. B. GOODWIN.

"ISAAC NEWTON, *Commissioner*."

The tooth sent by Mr. Goodwin has a black spot on the upper part of the inner side. It is upon the surface only, and how it could be the result or the cause of so fatal a disease cannot be determined by us. But facts are always potent things, whether they can be successfully explained or not; and so we give publicity to the statements forwarded to us by our correspondent, although we do not think the spot on the tooth has any connexion with the disease.

2. *The trichinis*.—This *new* disease, as is generally supposed, demanded the immediate consideration of this department. The great interest effected by it is too important to the country, both now and in all time to come, to be overlooked for a moment; and, on the other hand, the lives of every class are too sacred for us to seek to uphold that interest by endangering even a single life. What we have collected we give, regarding far more that one life than the upholding of the hog interest.

The disease to which the name of *trichinis* has been given is produced by a small worm, the egg of which, when taken into the stomach, hatches, producing a small worm; and then this worm finds its way to the muscles of the body and limbs, multiplying with such extraordinary rapidity that in a few days they become millions. They are imbedded in the muscles, lying in a coil, in-

visible to the naked eye, and by their numbers destroying life. The following letter from our excellent consul in Altona, Germany, speaks of the cases which have attracted so much interest in Europe and America :

“ UNITED STATES CONSULATE, ALTONA,

“ February 16, 1866.

“ DEAR SIR : The very valuable monthly report of your department for November is duly received. I have never received it for the months of January, February, March, and September. Perhaps you will be good enough to let me have these back numbers.

“ The cattle plague has not made its appearance in Holstein yet; but another and most dreadful disease has appeared in swine, called trichina. To give you some idea of the nature of this singular disease, it is said to be by the medical faculty a worm of infinite smallness, ingenerated in the flesh, and whoever eats of it in an uncooked state, as the Germans very commonly do, are seized of pains in the body and stomach, and die in a few days, suffering intense agony. This malady made its appearance at Hadersleben, a village in North Schleswig. Some two hundred persons were taken suddenly sick in the village after eating bacon bought at a small store. In a few days eighty of them died in great agony, as if from cramp in the stomach and bowels. A celebrated doctor of medicine in Berlin, named Virchow, having seen accounts of these sudden and terrible deaths in the newspapers, visited Hadersleben with a view to investigate the affair. Being informed of their having eaten this bacon, segments of it were submitted to a careful microscopic examination, and a worm called trichina was found in it in large numbers. A *post-mortem* examination was then made of the bodies of the deceased, and trichinae were discovered in their stomachs and flesh in the same proportions as found in the bacon they had eaten. There is much written from day to day upon the subject in the German newspapers, and such is the excitement here, nobody dares to eat bacon until it has undergone a microscopic examination.

“ I remain yours, very truly,

“ N. MARSH.

“ HON. ISAAC NEWTON,

“ *Commissioner of Agriculture.*”

The German cases here spoken of gave so much notoriety to the disease, that most persons believe it is a new complaint; but this is not the case. It would seem from the above account that some hogs, perhaps not more than one, had trichinae in large quantities, and was sold out by a retail dealer to a large number of persons, most of whom eat pork either raw or so slightly cooked that the worm is not destroyed.

The following account of the trichina, so called from the Greek word *thrix*, meaning a hair, we take from William Baird's *Encyclopædia of the Sciences*, published in 1858 :

“ *Trichina*, a genus of intestinal worms, the species of which are found parasitical in the muscles of human subjects, and some of the lower animals. *Trichina spiralis*, the worm upon which the genus is founded, is very small, of a cylindrical form, narrowed towards the anterior end, obtuse and rounded posteriorly. It is generally found spirally twisted upon itself, but when extended, measures in length about $\frac{1}{25}$ th to $\frac{1}{30}$ th of an inch, and about $\frac{1}{700}$ th to $\frac{1}{800}$ th of an inch in diameter. The muscles of the trunk are the parts where these little creatures are chiefly found, and they occur sometimes in very great numbers. They appear to be derived from the food, and can apparently be communicated from one

animal to another. A dog, for instance, has been found to have its muscles infected with the worms after having been fed upon the flesh of a badger which was loaded with them."

These worms, then, are no newly discovered creature, nor have they suddenly shown a dangerous character, which they have not before exhibited; indeed, they have been thought rather harmless when imbedded in the muscles. The danger seems to arise chiefly where they are introduced into the stomach in large quantities. From the stomach and bowels they pass into the muscles, by eating their way through them, and when in large numbers, the injury to these organs results in inflammation. The following statements show in what manner the trichinæ pass from the stomach and bowels to the muscles:

"The symptoms," says Mr. Gamgee, an English writer, "have been ascertained in the course of experiments, and they are found to vary somewhat in different cases. Not uncommonly rabbits, which are made to swallow thousands of trichinæ, appear to suffer no indisposition for some days, and then die suddenly. Leuckart fed nine rabbits with half an ounce of muscle, containing about 160,000 trichinæ, and repeated the dose about three days afterwards. No symptoms of importance resulted until the seventh day after the first administration, when one of the rabbits died. After death, the diaphragm and the serous coat of the intestine were of an intensely red color. Exudations had occurred from the mucous membrane, on which numberless trichinæ with their embryos were found. Leuckart and Claus then traced the embryos on the peritoneal coat, (the smooth, serous lining of the bowels and abdomen,) having therefore forced through the intestine, and many were also found in the pleural cavities. Leuckart also traced the parasites in the red spots on the peritoneum, (the same smooth coat,) which evidently indicates the parts where the parasites were burrowing. In the pig thousands of trichinæ may exist without affecting the animal's health; though commonly, at the period of migration from the alimentary canal to the muscular system, there is diarrhœa, lassitude, and a general feverish state. These symptoms may be so severe as to kill, or may pass off; and either the animal lives on with trichinæ in its flesh, which afterwards die and cretify, (become chalky,) or within a fortnight or a month there is evidence of pain, stiffness in movements, languor, debility, and death."

We here see the cause which makes these worms fatal. Their existence is not new or strange; but when introduced in large numbers, their rapid propagation and passage through the bowels and peritoneum cause death. The numbers that may exist in a single ounce of infected meat are seen from this extract. We suppose, therefore, that the fatal cases reported by our consul, and which have made the disease so notorious, arose from a hog being exceedingly affected by them, and yet living in apparently good health.

In the city of Washington, these trichinæ have recently been found in rats, occupying old pork-houses. And from Detroit we have the following account of the death of a German girl:

"There has been a case in Detroit of a girl from Germany, who died with the trichina. Coming over to this country, she ate Bologna sausage, and after her arrival was taken very ill. Dr. Kiefer, a German, who attended her, could not tell what was the matter with her, but suspected that it was this disease. After her death he examined her, and found that she was alive with these worms. Each worm is enclosed in an egg, and after it is admitted into the stomach, the egg by coming in contact with the gastric juices dissolves, and the worm roams

at pleasure. Each worm in twenty-four hours makes a thousand more. This Dr. Kiefer cut out small pieces from her chest and gave to each of the other doctors. If you look through a microscope glass you can see these worms distinctly. They are not visible to the naked eye. Her sister and mother both died the same way."

Since writing the foregoing, we have received the following letter from Dr. Kiefer, the attending physician in this case:

"DETROIT, *March* 13, 1866.

"DEAR SIR: Assistant Postmaster Smith sent me your letter, written by you to Mr. Howard, with the request to answer it in the absence of Mr. Howard. As the attending physician of the case of *Trichiniasis* referred to, I have to state, that the talk about eating 'Bologna sausage' is without foundation. The woman who died with this sickness had lived here for about four months, having left Germany in the end of June last. The sickness exists in that part of Germany; still no cases were known in the same place where she came from. In about a month we will have information if any cases happened in her family in the old country. Besides, it is not probable at all that she should have brought her sickness with her, as the time she lived here before taken sick is too long to justify such an opinion. The lady in the house where she lived here is sick with the same symptoms, but not so severe; she was not in Germany, and has eaten no imported 'Bologna sausages.'

"Other cases have been reported from Buffalo and St. Louis, and there is no doubt, in my opinion, that *trichina spiralis* exists, and existed always where hogs exist. For particulars about the case under my treatment I refer you to the *Detroit Medical Review*, a journal to appear this month, when Mr. Howard will send you a copy.

"Very respectfully, yours,

"HERMAM KIEFER, M. D."

We thank Mr. Kiefer for his prompt reply to our inquiries. And, whilst our present knowledge of this case seems to point to an American origin, it is by no means clear that it is not German. We, as yet, know too little of the disease to determine how long *trichina* may continue propagating in the human system before a fatal sickness is developed; nor can we tell but that the case of the woman mentioned by him may have originated from the *trichina* of the German girl. We know that the human family derive the tape-worm of the dog (*tænia echinococcus*), from that animal, and that from other animals other entozoa find a lodgement in the human body. Most strange are the modes of this transfer, and until we know more of the *trichina*, we cannot determine the precise origin of any case, without it is found in the food consumed by the diseased person. This has not been done in the Detroit cases. But, admitting their American origin, we agree with Dr. Kiefer, that the *trichina* has always existed here, as much as it does now, and we are certain that pork can be eaten as safely now as it could at any previous period. The microscope is showing us that animals are as full of parasites as the water we drink is full of animalculæ.

But our present knowledge of these worms imposes on the American farmer a new duty in their destruction, and, therefore, we suggest to him a remedy against the *trichina*.

The remedy.—Every farmer knows how subject hogs are to intestinal worms of as large a growth as those infesting the human family. Even these large ones eat their way through the intestines, and live on the fat of the animal. We have, in killing hogs, found them sticking half inside and half outside the entrails. It was this disgusting sight that led us to extirpate them by mixing copperas with the salt we gave our hogs.

We have no doubt of the efficacy of this treatment as a destroyer of the trichina, and if to these benefits it should be proven to be a preventive of hog cholera, the use of copperas should be omitted by no one. Certain it is, that we were a hundred-fold compensated for the small cost and trouble in using it as we did, by the destruction of the large intestinal worms so commonly found in our hogs.

It is doubtless true that intestinal worms are propagated more readily when farm stock is raised in large numbers by the same person, or fed on unusual food. Both conditions produce an unhealthy state, and there rests upon the farmer the duty of greater care in proportion to the number he raises. The unnatural crowding of a great number of hogs in the distillery at Aurora, Indiana, and the still-slop with which they were fed, produced the disease known as hog cholera. Morbid and poisonous secretions are created, which have the power of self-propagation. A morbid condition is favorable to the production of intestinal worms; and in greater care as to the food used to cleanliness and to ventilation, and to the use of preventive remedies, must the American farmer look, if he hopes to maintain a profitable demand for the stock, used as human food, which he raises.

Trichina in American pork.—The following report from the Chicago Academy of Sciences has been received after this number of our report was placed in type. We nevertheless insert it here, that the farmers may see that *trichinae* are in American hogs, and that the course we have recommended to destroy this parasite is now imperatively demanded of them, should the use of copperas prove a destroyer of the *trichinae*. Experiments should be instituted by agricultural associations and agricultural colleges to ascertain a certain preventive.

TRICHINÆ IN PORK.

Investigations by the Chicago Academy of Sciences.

The Chicago papers publish a report of a committee of the Academy of Sciences of that city, which was appointed to determine the question whether the disease was to be found in animals slaughtered in that city. The document makes these important statements :

TRICHINÆ IN WESTERN PORK.

Your committee have conceived that the object for which they were appointed is two-fold—first, to ascertain whether trichinae actually exist in the hogs of this country, and in those of the northwest in particular; and, secondly, should they exist, to determine the extent of the danger thereby incurred, and to ascertain the best means of averting it. For the attainment of the first-mentioned object they have, with the assistance of the gentlemen named at the head of this report, procured and examined portions of muscle taken from 1,394 hogs in the different packing-houses and butcher-shops of our city. The results of

these examinations have been engrossed in the tables herewith presented. The first of these shows the number of specimens, and in most cases the names of the muscles examined by each observer, with the number of trichinous specimens found by each. The second gives various data concerning the twenty-eight trichinous specimens found, which are numbered in the order of their discovery, and are preserved in the cabinet of the academy.

Specimens examined.

Examiner.	Pharyngeals.	Diaphragm.	Abdominals.	Intercostals.	Lumbers.	Spinals.	Various.	Totals.	Trichinous specimens.
Dr. Johnson.....	1	7			15	224	24	321	13
Dr. Shuman.....	17	9	30	37		35	2	130	2
Dr. Nickerson.....			10	9		107	124	250	3
Dr. Jewell.....							212	212	3
Dr. Hollister.....							70	70	2
Dr. Nelson.....							50	50	1
Drs. Blaney and Hay..	4	9	8			10	3	34	
Dr. Nason.....			9	7		31		47	
Dr. Andrews.....							96	96	1
Dr. Lyman.....							90	90	1
Dr. Stimpson.....	6	8			16	61	3	94	2
								1,394	23

Number of parasites discovered.

No.	Observer.	Muscle.	No. to a cubic inch.
1	Dr. Johnson.....	Spinal.....	350
2	Dr. Johnson.....	Spinal.....	300
3	Dr. Johnson.....	Spinal.....	200
4	Dr. Johnson.....	Intercostal.....	100
5	Dr. Johnson.....	Intercostal.....	500
6	Dr. Johnson.....	Spinal.....	600
7	Dr. Johnson.....	Abdominal.....	3,000
8	Dr. Johnson.....	Spinal.....	500
9	Dr. Johnson.....	Spinal.....	1,000
10	Dr. Stimpson.....	Spinal.....	18,000
11	Dr. Johnson.....	Spinal.....	15,000
12	Dr. Johnson.....	Spinal.....	300
13	Dr. Johnson.....	Spinal.....	300
14	Dr. Johnson.....	Spinal.....	300
15	Dr. Stimpson.....	Spinal.....	400
16	Dr. Nickerson.....	Unknown.....	48
17	Dr. Nickerson.....	Unknown.....	80
18	Dr. Nickerson.....	Unknown.....	192
19	Dr. Sherman.....	Unknown.....	3,000
20	Dr. Sherman.....	Pharyngeal.....	6,000
21	Dr. Andrews.....	Abdominal.....	2,000
22	Dr. Nelson.....	Spinal.....	2,000
23	Dr. Lyman.....	Unknown.....	16,000
24	Dr. Hollister.....	Unknown.....	500
25	Dr. Hollister.....	Unknown.....	500
26	Dr. Jewell.....	Unknown.....	2,000
27	Dr. Jewell.....	Unknown.....	250
28	Dr. Jewell.....	Unknown.....	500

By these tables it will be perceived that we have found trichinæ in the muscles of twenty-eight hogs out of the 1,394 examined. We may therefore conclude that in the hogs brought to Chicago one in fifty is affected with trichiniasis, in a greater or less degree. We must confess our surprise at arriving at this result, which indicates, with little doubt, the startling fact that trichiniasis in pork is even more common in this country than in Germany, where it caused so much suffering and death. For instance, in the city of Brunswick, where a most careful inspection of 19,747 hogs was made in the years 1864-'65, only two were found to contain trichinæ in their muscles, the proportion being one to ten thousand against one to fifty, as before stated, in our country. The comparative immunity from disease which our own people have enjoyed undoubtedly results from our habit of cooking meat before eating it, while in Germany it is eaten raw by the poorer classes on account of the high price of fuel.

It will be also observed, by consulting these tables, that the specimens examined show great variation in the number of the worms infesting them. We have given, indeed, only an approximation to the number existing in a cubic inch in each specimen of muscle, but this approximation is sufficiently near the truth for our present purposes. Our method has been to count the trichinæ occurring in the several different portions of muscle, each a cubic tenth of an inch in size, and to multiply the average number by one thousand to find the number to a cubic inch. By this method we find that only three of our specimens (Nos. 10, 11, and 23) contain over ten thousand to the cubic inch, and are, therefore, as densely infested with the worms as the pork which has occasioned the disasters in Germany. The remaining twenty-five are infested in a comparatively slight degree, viz: from forty-eight to six thousand to the cubic inch. The specimen most thickly infested contains eighteen thousand to the cubic inch, and we have calculated that a person eating an ordinary meal of this pork in a raw state would speedily become a victim to the ravages of not less than a million of young trichinæ. In certain cases of death from trichiniasis the number found in the muscles of man has been two millions.

With regard to the muscles of the hog most liable to be infested, we have to state that our determinations do not accord with those of European observers, inasmuch as more than half of our trichinous specimens have been taken from the spinal muscles.

HOW TO GUARD AGAINST THE EVIL.

Now that the existence of trichinæ in our pork has been established beyond a doubt, it will be proper for us to point out all known means of defence against its ravages. First, with regard to the rearing of hogs. These animals undoubtedly become infested through the eating of flesh of some kind, since no trichinæ, nor germs of trichinæ, have ever been found in any vegetable food. A strict attention to the feeding of hogs, and their confinement in pens where no animal food is accessible, is an infallible preventive against trichiniasis in them. Such management is all the more necessary, since European authorities agree that it is impossible to diagnose the disease in the animal from external appearances, and no culpability can therefore attach to the farmer for selling hogs which prove to be affected with trichinæ.

In regard to pork the origin of which is doubtful, the use of the microscope is primarily indicated. With this instrument only can we ascertain with certainty whether the muscles of the hogs are free from the parasite. The general use of the instrument is, however, impracticable, unless a system of microscopic inspection be adopted here, as in Europe, at the great packing establishments. But we have in our power much more simple means of insuring safety in the consumption of pork. It is simply necessary to cook it thoroughly, so that every portion of the meat shall have experienced a temperature of at least 160 degrees

Fahrenheit. We cannot insist too strongly upon this point. Again, by properly salting and smoking the meat for a period of at least ten days, the trichinæ, should they exist, will be certainly killed. Simple desiccation of the meat, if continued for a period of sufficient length, will also kill them. They will never be found alive in old hams, for instance. On the other hand, mere pickling appears to have very little effect upon these worms.

Trichinæ have doubtless always existed in muscles of the hog, although probably not to the same extent as at present. And trichiniasis in man may have existed to a considerable extent in this country before its nature and cause became known. Some of the members of your committee can recall cases of obscure disease which have come to their knowledge in past years, which may have been owing to the presence of trichinæ.

THE TRICHINÆ PANIC.

Having now fully exposed the exact extent of the danger from trichinous pork to which our people are liable, and stated the means of avoiding it, we will proceed to close our report with a few remarks upon the economical aspects of the subject. A panic has been produced in the mind of our public by the news which has reached us from Germany concerning the disasters which have occasionally followed the consumption of pork in a raw state. The excitement has, with little doubt, been fostered by interested persons for speculative purposes, until people have come to imagine that there is danger in eating pork of any kind—a danger all the more terrible because hidden, little understood, and undiscoverable by ordinary means. *All this excitement has occurred before a single instance of the occurrence of trichinæ in American hogs has been, as far as we are aware, authentically reported.* It has, therefore, become necessary that the subject should be thoroughly investigated, in order that the people, by familiarity with the danger, and confidence in their understanding of its character, may not be the prey of superstitious fears. *The panic which now prevails is unfounded in reason, senseless and greatly injurious.* We do not allude to the commercial aspects of the question, a matter of small moment compared with the great importance of pork, as the kind of meat diet upon which nine-tenths of our agricultural population, north and south, mainly depend. In our view it would be folly to discard this kind of meat from our list of articles of food when all possibility of injury attending its use may be avoided by the most simple means. Let the people but understand that only one hog in forty-eight contains trichinæ at all; that only one in three hundred contains them in sufficient numbers to cause considerable danger; and that even in these cases the worms are rendered innocuous by proper smoking, drying, or cooking, and we imagine that few sensible persons will refuse pork as food if it suits their convenience to use it.

E. ANDREWS, M. D.

J. V. Z. BLANEY, M. D.

HOSMER A. JOHNSON, M. D.

WILLIAM STIMPSON, M. D.,

Secretary.

THE PRESERVATION OF TIMBER.

Every farmer has always lamented the fact that a great part of his labor is necessarily given to keeping his fences from dilapidation. It is this unprofitable work that makes agriculture a less lucrative pursuit than other occupations. Posts and rails decay almost as fast as the profits of the farm will permit their

renewal. Every five or six years a rail-fence must be thrown down and reset, that the change of the crossing may make them last longer. Yet there has never been a series of experiments carefully and extensively made to determine the best modes of preserving timber by the time and manner of their cutting, or by applications to protect posts and exposed timbers from decay. One of the most useful duties of our agricultural colleges will be in making these experiments.

Our attention has been called to this important subject in reading an article in a newspaper, headed "Old Ships." The first of these mentioned is the Princess Mary, built on the Thames, England, in the early part of the 17th century, and famous as being the vessel which brought Mary and William, of Orange, over from Holland into Great Britain in 1688. That vessel remained good until 1827, when it was lost by being wrecked. In connexion with the old ships named in this article these facts are stated :

"The Sovereign (an old vessel) was built in 1637, and when repaired in 1684, forty-seven years after, her timber was so hard that it was difficult to work it. It was the practice in the north of England to bark timber standing, and in Staffordshire especially, and let it remain in that state for a time to season. The Achilles was built by contract in 1757 of timber barked in the spring and felled the next winter. She was docked in 1770 and found exceedingly sound, and was sold in 1784 because too small for a line-of-battle-ship. The Hawke (sloop) was built half of timber barked in 1787 and felled in 1790, and half of timber felled in the usual way, from the same soil and neighborhood. In 1803 she was taken to pieces, and both sides were found equally decayed."

There is great difficulty in determining the precise results of experiments made on the durability of timber. There is much difference in individual trees standing near each other, and of the same kind. There is still greater difference in trees grown on poor ridges and in rich bottom lands. But still experiments could determine the value of different modes of preparing the timber for special purposes.

Of the experiment given in the above account of old ships we have tested its practical utility to a certain extent. Having purchased an old dilapidated farm, on which some of the fences had not been repaired for thirty years, we found that of the rails in them the kind in best preservation was hickory. White oak rails had become very light, but some of the hickory were scarcely affected at all, whilst in others the sap was entirely rotted. Of the sound hickory some were shell-bark, but most were red hickory. Of the sound rails many had the sap-wood in excellent preservation—these had had the bark stripped. All hickory rails unstripped had their sap-wood entirely destroyed.

We acted on these facts, and where we could do so, made hickory rails in the spring when the sap was in lively flow, stripping the bark from each of the rails as fast as they were made, and piling them closely to prevent their warping. These rails now, ten years after making, show no signs of decay in the sap-wood, and are as hard, perhaps more so, than the heart-wood. But hickory rails made in the winter, and the bark adhering, rotted in the sap-wood in two years.

Every farmer knows how quickly the sap-wood rots. Sap-wood is gradually changed to heart-wood by the force of pressure and of growth. The outer layers seem to press upon the interior ones, causing them to contract by lessening the size of the pores. These pores, too, are gradually closed by cell-growth. The wood is more solid, and less of air can penetrate them. The sap almost ceases to circulate in them. But in the sap-wood this circulation is undiminished. In the spring when the sap, then almost nothing but water, ascends, it is fluid; but having been acted upon in the leaf, which absorbs carbonic acid, and exhales the water of the sap, it descends thicker, and is retained in the cells or pores, forming cell or wood growth.

By stripping the bark in the spring the sap, in its ascent, is exhaled or flows from the pores, and no elaborated or descending sap is formed. Now, this deposit of the descending sap appears to have a great affinity for oxygen, which exists in the air, and is that part of it which destroys all things that are of vegetable or animal growth after death. Timber that is stripped of its bark having but little of this downward sap, the wood seasons to complete hardness, and is not destroyed by the oxygen, because it is not taken up by an absorbent, such as the descending sap appears to be.

It is well known that wood always under water never rots, because the air is excluded from it; and posts rot most rapidly at the surface of the ground, where the air penetrates into the pores, and aided by moisture which hastens decomposition. To fill up the pores of the wood with a substance antagonistical to the oxygen of the atmosphere, and which will not dissolve in water readily, must be preservative. A substance having these properties, and which will solidify or harden the wood itself, is best of all others. Pyroligneous acid—an acid procured by the distillation of wood—gas tar, and other substances are used, but we know of no series of experiments having been made to determine their relative value, and of the manner and times of their application.

Individual experiments have often been made, but the years that must elapse before they can be tested so often removes those who have made them from the place where they are made, that nothing is heard of the result. But we hope, through our regular correspondents, to glean some reliable information respecting them, and we desire they will make inquiries about them, as we purpose hereafter to make some interrogatories in our circulars on this subject. And should any person have made such experiments, we hope he will advise the Commissioner of Agriculture of the result, and thus aid in lessening one of the heaviest expenses to which the farmer is subject.

CANADIAN RECIPROCITY TREATY.

Canadian delegates were present in this city to negotiate another treaty of reciprocity. So far as we have seen, the basis of their proposition was to allow the importation of some manufactures free of duty from the United States into the Canadas. The Committee of Ways and Means would not concur in their

proposition, and the delegation has returned to Canada. The authorities of the provinces have given notice that the American fishermen will not be permitted to fish in British waters. On our part, Mr. Morrill has introduced a bill into the House of Representatives imposing duties upon nearly all imports from Canada, but to continue the reciprocal use of the lakes, canals, rivers, and fishing grounds of the two countries, as provided for under the existing reciprocity treaty, and admitting the transportation of foreign goods through the territory of one country into that of the other. But this measure has been defeated.

In condemnation of the course of this country and of Congress for not continuing the former treaty, the *United States Economist* bitterly censures the majority in Congress by declaring that "narrow protectionist jealousies have blinded them to the fact that we have been doing a most valuable trade with the provinces which we can ill afford to throw away, and that the numerous interests threatened by the abrogation of the treaty begin to cry aloud, now that the day of suspension draws nigh, and the abrogationists are learning from these complaints the egregiousness of their folly." It follows this condemnation with a statement of the imports and exports from and to the provinces to show the total of the trade prior to and since the treaty, now abrogated, was executed.

We have shown, heretofore, the deceptive character of these tables, by reason of the different basis of valuation on our exports into the Canadas, and their imports from us. Nothing need be added on that point. But the following statistics, given by the London (Canada) *Free Press*, show the operation of that treaty upon the agriculture of this country, an interest not crying aloud against the abrogationists, but demanding and sustaining the action of our government.

That paper says:

"The importance of the export trade of Canada, stimulated by the reciprocity treaty, has been underestimated even by the people directly interested. From the last half-yearly trade returns it appears that there were exported from Canada, *in six months*, 15,000 horses, 103,810 horned cattle, 158,000 sheep; the total value of this class of exports being \$7,923,355. Of wheat, grain, and other agricultural produce, the value of the exports was \$11,954,878, the most of which went to the United States. The total exports for the half year were \$33,655,463, being an increase over the corresponding year of more than \$10,000,000, arising, for the most part, from the excellent harvest, though combined with higher prices than usual."

In the January number of these reports we showed that the Canadas had reaped the harvest of high prices occasioned by our war expenditures and the condition of our currency, without incurring the taxes and military duties which the American farmer endured in the prosecution of the war. The above statistics prove the correctness of this showing.

A more gross injustice to the American farmer than the Canadian treaty could scarcely be conceived. It was a selling of him for a fishery and a New York transportation. Now these two interests may as well understand that they can make any equitable exchange with the provinces of their interests with a like Canadian interest, or of any other that is local to them, and which the parties

to be affected by it may agree upon. But when it comes to this, that American agriculture, especially that of the west and northwest, is to be sold for eastern fisheries and transportation, then so great a crime against it will be punished. Once more we thank God that this agriculture is now a power in the United States, and as ready as it is able to vindicate its own rights, and redress the wrongs committed against it.

INTERNAL REVENUE.

The following compilation of the internal revenue collected in 1863, 1864, and 1865, we take from the *United States Economist*:

As the statistical division of this department is never furnished the reports from other departments, we must rely upon the newspapers taken by it for its statistical information.

Articles and occupation.	1863.	1864.	1865.
Received from—			
Manufactures and productions	\$24,403,091 34	\$75,461,278 00	\$104,379,609 56
Slaughtered animals	710,812 57	698,549 73	1,261,357 09
Gross receipts	1,340,271 82	2,902,863 90	8,891,874 13
Sales	64,003 87	141,231 58	4,062,243 54
Licenses	6,824,178 42	7,178,205 26	12,613,478 67
Income	455,741 26	14,933,362 32	20,740,451 33
Legacies and successions	56,592 61	311,161 02	546,703 17
Articles in schedule A	365,630 93	696,878 43	780,266 53
Passports, &c.	8,406 00	11,001 00	29,538 29
Special income tax			28,929,312 02
Penalties, &c.	27,170 14	185,224 94	517,627 41
Banks, railroad companies, &c.	1,910,936 97	7,017,547 03	14,385,606 63
Salaries	696,181 71	1,705,124 63	2,820,333 37
Stamps	4,140,175 29	5,894,945 14	11,162,392 14
United States marshals		408 32	2,735 29
Solicitor of the Treasury		7,967 22	
Total	41,003,192 93	117,145,748 52	211,129,529 17

The following table shows in detail the amounts paid by particular kinds of manufactures:

Boots and shoes	\$3,280,627	India-rubber	\$635,975
Carriages and other vehicles	880,021	Iron manufactures	8,494,990
Cigars	3,072,476	Leather and manufactures of it	4,337,265
Clothing	6,820,936	Petroleum	3,180,758
Coal	835,993	Paper	1,082,475
Confectionery	569,473	Soap	791,415
Cotton manufactures ..	6,747,923	Steam-engines	772,360
Cotton, raw	1,772,983	Steel and its manufactures	723,817
Distilled spirits	15,995,701	Sugar	2,044,401
Fermented liquors	3,657,181	Thread, yarn, &c.	583,225
Furs	2,733,247	Tobacco	8,017,018
Gas	1,348,324	Woollen manufactures ..	7,947,094
Glass	585,429		

Commenting on this exhibit of the taxes paid by manufactures and productions, the *Economist* remarks :

"The \$104,000,000 of taxes collected upon manufactures and products is drawn from about \$1,700,000,000 of goods. Upon goods thus taxed *not only has the duty to be added, but also the dealer's profit upon the duty*, through at least four successive hands, before the products reach the consumer; so that the consumer has, on the average, to pay 10 to 12 per cent. more for the goods than if they were free from taxation. This \$104,000,000 of taxes upon products, therefore really represents about \$200,000,000 of extra price which consumers have to pay upon the goods taxed. This serious addition to the cost of products cannot fail to have the effect of limiting the consumption of commodities very largely."

The *Economist* is a very able paper, devoted to the commercial interests, but very fair in its general views of the manufacturing and agricultural interests. Here is an admission that whilst the manufacturer advances the tax laid upon his products, the consumer repays him not only the amount advanced, but ten to twelve per cent. as a profit on such advancement. If this be true—and it may be set down as generally so—then, most assuredly, the manufacturer has no cause of complaint. He is repaid the taxes advanced by him, with ten per cent. interest. But the consumer has cause of complaint, that he should be subjected to this per cent.; and to lessen it, we have heretofore advocated that the tax should be laid as near the consumer as possible.

But it is said that these taxes and per cent. upon their advance cannot fail to limit the consumption of commodities very largely.

Will the *Economist* allow the imports to answer this allegation?

Here they are as given by the *Journal of Commerce*, N. Y.,

Import of foreign dry goods at New York for two months, from January 1.

ENTERED FOR CONSUMPTION.

	1865.	1866.
Manufactures of wool	\$1, 444, 534	\$8, 338, 729
Manufactures of cotton	550, 412	4, 379, 529
Manufactures of silk	571, 016	4, 914, 641
Manufactures of flax	951, 902	3, 374, 732
Miscellaneous dry goods	281, 598	1, 710, 317
Total entered	3, 799, 462	22, 717, 948
Withdrawn from warehouse	3, 075, 845	7, 014, 512
Total for consumption	6, 875, 307	29, 732, 460

Here we see an import about $4\frac{1}{3}$ times greater in January and February, 1866, than during the same months in 1865. Even the *Journal of Commerce*, devoted as it is to free trade, designates these imports as "extraordinary receipts," and an "enormous increase."

AMOUNT IN TENTHS, AND PRICES OF FARM STOCK IN JANUARY, 1865, AND
FEBRUARY, 1866.

TABLE 1.—*Showing the amount, in tenths, of the farm stock of the States named, in January, 1865, compared with the amount in January, 1864, and the prices of the same in January, 1865, for the different ages; and the amount and prices of the same in February, 1866, compared with those of January, 1865.*

States.	HORSES.									
	Average number of horses compared with that of January, 1864.	Average number of horses compared with that of February, 1865.	Average price per head of same under 1 year old, 1865.	Average price per head of same under 1 year old, 1866.	Average price per head of same between 1 and 2 years old, 1865.	Average price per head of same between 1 and 2 years old, 1866.	Average price per head of same between 2 and 3 years old, 1865.	Average price per head of same between 2 and 3 years old, 1866.	Average price per head of same over 3 years old, 1865.	Average price per head of same over 3 years old, 1866.
Maine.	9 $\frac{1}{4}$	9 $\frac{1}{4}$	\$34 72	\$39 71	\$54 50	\$62 50	\$80 22	\$83 61	\$112 25	\$126 64
New Hampshire..	9	10 $\frac{1}{10}$	28 89	31 00	48 30	49 44	69 00	69 55	101 70	99 44
Vermont.	9 $\frac{1}{9}$	9 $\frac{1}{4}$	34 33	32 00	56 33	52 85	77 33	79 00	111 11	118 00
Massachusetts	9 $\frac{3}{10}$	10	38 33	34 70	55 22	51 70	76 66	82 50	111 70	123 36
Rhode Island	9 $\frac{2}{3}$	9 $\frac{2}{3}$	33 33	43 33	58 00	70 00	88 33	93 33	111 67	125 00
Connecticut.....	10	11	35 60	36 25	58 40	62 50	84 00	88 75	119 00	117 50
New York.	8 $\frac{9}{11}$	10	38 11	41 00	64 44	67 90	92 65	97 26	122 00	135 71
New Jersey.....	9 $\frac{1}{2}$	10 $\frac{1}{5}$	49 58	58 00	80 83	89 00	115 41	120 70	142 29	169 66
Pennsylvania	9 $\frac{1}{3}$	10 $\frac{2}{3}$	40 19	43 00	67 02	68 58	97 70	101 35	113 51	139 66
Maryland.....	9	10 $\frac{3}{4}$	37 34	41 45	58 84	64 50	80 84	93 00	125 81	129 00
Delaware.....	8 $\frac{1}{4}$	11	35 00	40 00	54 00	60 00	77 00	80 00	120 50	120 00
Kentucky.	7 $\frac{2}{3}$	10	41 25	40 00	58 95	59 33	78 95	83 75	105 00	104 15
Ohio.....	8 $\frac{5}{6}$	10	33 78	34 00	53 96	54 25	78 00	77 50	107 57	110 00
Michigan.....	10 $\frac{1}{2}$	10 $\frac{1}{2}$	36 96	37 87	58 75	62 00	88 27	91 40	121 75	134 55
Indiana.....	9 $\frac{2}{10}$	10 $\frac{2}{3}$	36 12	35 00	57 78	56 00	81 60	77 00	113 13	105 00
Illinois.....	9 $\frac{1}{4}$	10 $\frac{2}{3}$	38 43	38 91	60 00	59 95	87 65	83 00	117 39	114 67
Missouri.....	8	10 $\frac{1}{3}$	38 50	37 52	57 74	57 50	85 76	77 62	107 00	104 25
Wisconsin.	10 $\frac{1}{2}$	11 $\frac{1}{3}$	36 14	46 00	54 77	74 00	84 44	106 00	115 86	146 00
Iowa.....	10 $\frac{2}{3}$	11 $\frac{1}{3}$	41 28	41 00	61 65	62 25	90 93	94 84	121 87	119 78
Minnesota.	12	12 $\frac{2}{3}$	41 47	44 55	66 52	81 46	89 94	112 29	120 00	149 92
Kansas.....	11 $\frac{1}{6}$	11 $\frac{2}{3}$	33 00	35 47	53 61	53 52	85 00	78 76	115 83	109 00
West Virginia....	8 $\frac{1}{10}$	11 $\frac{1}{2}$	37 00	36 00	57 00	53 16	79 00	74 00	104 54	100 25
Nebraska Ter'ry..	13 $\frac{1}{2}$	11 $\frac{1}{11}$	39 54	43 33	64 54	67 00	92 72	94 95	120 91	130 50

TABLE 1.—*Showing the amount, in tenths, of farm stock, &c.—Continued.*

States.	MULES.									
	Average number of mules compared with that of January, 1864.	Average number of mules compared with that of February, 1865.	Average price per head of same under 1 year old, 1865.	Average price per head of same under 1 year old, 1866.	Average price per head of same between 1 and 2 years old, 1865.	Average price per head of same between 1 and 2 years old, 1866.	Average price per head of same between 2 and 3 years old, 1865.	Average price per head of same between 2 and 3 years old, 1866.	Average price per head of same over 3 years old, 1865.	Average price per head of same over 3 years old, 1866.
Maine .....	.....	11 $\frac{1}{8}$	.....	.....	.....	.....	.....	.....	.....	.....
New Hampshire.....	.....	9	.....	.....	.....	.....	.....	.....	.....	.....
Vermont.....	.....	11	.....	.....	.....	.....	.....	.....	.....	.....
Massachusetts.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Rhode Island.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Connecticut.....	.....	12	.....	.....	.....	.....	.....	.....	.....	.....
New York.....	10 $\frac{1}{4}$	12	\$44 11	\$51 16	\$76 61	\$82 11	\$111 77	\$116 00	\$151 50	\$141 60
New Jersey.....	10	11	48 54	50 62	78 73	87 50	115 64	135 50	152 77	174 33
Pennsylvania ..	10 $\frac{1}{2}$	12 $\frac{7}{11}$	47 22	48 74	81 00	75 60	125 35	119 93	158 37	155 00
Maryland.....	10	11	43 14	48 66	68 57	76 00	100 50	110 00	152 00	146 20
Delaware.....	9	10	.....	.....	.....	.....	80 00	.....	.....	100 00
Kentucky.....	8	8 $\frac{3}{8}$	55 63	53 00	78 91	78 25	110 20	111 00	130 87	137 00
Ohio.....	9	11	47 38	42 50	76 00	69 00	109 11	101 00	141 51	134 50
Michigan.....	11 $\frac{1}{2}$	11 $\frac{1}{8}$	45 41	47 33	72 72	78 00	106 36	115 62	147 79	153 15
Indiana.....	9 $\frac{1}{2}$	11 $\frac{1}{5}$	47 26	46 10	76 00	71 00	105 00	96 50	138 16	121 00
Illinois.....	10	10 $\frac{1}{8}$	51 70	49 69	67 73	76 86	113 00	107 80	148 00	134 00
Missouri.....	7 $\frac{3}{4}$	10 $\frac{1}{2}$	52 73	49 50	72 00	73 19	112 00	102 00	145 36	132 25
Wisconsin.....	11 $\frac{1}{4}$	11 $\frac{1}{8}$	53 42	52 08	79 00	84 66	112 25	121 66	148 73	160 33
Iowa.....	10	11 $\frac{1}{2}$	53 47	53 12	79 06	82 38	112 65	118 60	153 00	156 76
Minnesota.....	11	12	53 62	60 72	76 87	91 90	117 50	126 00	158 00	162 68
Kansas.....	11	11	51 93	43 00	77 93	67 33	114 11	95 46	161 75	137 00
West Virginia..	8 $\frac{7}{10}$	10 $\frac{1}{3}$	42 00	40 00	63 00	60 00	90 00	84 00	123 00	114 00
Nebraska Ter ..	13 $\frac{3}{10}$	11	60 28	60 62	88 43	90 71	136 00	128 12	167 22	162 44

TABLE 1.—*Showing the amount, in tenths, of farm stock, &c.*—Continued.

States.	CATTLE AND OXEN.									
	Average number of cattle and oxen compared with that of January, 1864.	Average number of cattle and oxen compared with that of February, 1865.	Average price per head of same under 1 year old, 1865.	Average price per head of same under 1 year old, 1866.	Average price per head of same between 1 and 2 years old, 1865.	Average price per head of same between 1 and 2 years old, 1866.	Average price per head of same between 2 and 3 years old, 1865.	Average price per head of same between 2 and 3 years old, 1866.	Average price per head of same over 3 years old, 1865.	Average price per head of same over 3 years old, 1866.
Maine.....	8 $\frac{1}{11}$	9	\$12 11	\$14 78	\$23 94	\$26 43	\$37 27	\$44 28	\$63 19	\$79 00
New Hampshire....	8	9 $\frac{1}{2}$	11 10	12 88	20 40	24 00	34 00	38 48	67 00	76 22
Vermont.....	8	9 $\frac{3}{4}$	9 78	12 00	21 44	27 00	39 33	46 28	70 00	83 43
Massachusetts.....	9	9 $\frac{1}{2}$	12 50	14 63	24 50	26 00	40 75	41 36	68 75	66 66
Rhode Island.....	10	9 $\frac{1}{8}$	12 33	20 00	22 67	28 33	38 33	42 33	63 33	85 00
Connecticut.....	9 $\frac{1}{2}$	10 $\frac{1}{2}$	10 00	15 00	20 40	29 50	38 00	46 50	68 00	71 25
New York.....	8 $\frac{3}{4}$	9 $\frac{1}{4}$	11 58	14 64	21 41	26 76	35 83	43 39	62 00	68 90
New Jersey.....	8 $\frac{3}{4}$	10 $\frac{1}{10}$	14 45	20 00	23 08	34 33	35 21	54 00	63 58	80 00
Pennsylvania.....	9	9 $\frac{5}{8}$	11 42	14 29	19 71	23 70	31 48	37 74	49 24	57 52
Maryland.....	8 $\frac{1}{10}$	9 $\frac{1}{11}$	9 92	11 25	16 54	19 00	26 61	26 33	42 30	42 00
Delaware.....	7 $\frac{3}{4}$	11	10 50	20 00	20 00	30 00	35 00	45 00	48 00	60 00
Kentucky.....	8 $\frac{1}{2}$	9 $\frac{1}{2}$	10 33	11 00	20 20	20 00	34 33	31 00	52 12	51 00
Ohio.....	8 $\frac{3}{8}$	9 $\frac{1}{4}$	9 44	12 00	17 41	21 66	28 87	36 00	45 71	54 00
Michigan.....	9	9	7 83	10 00	15 72	19 29	27 48	33 44	49 00	63 38
Indiana.....	8 $\frac{1}{8}$	9 $\frac{1}{8}$	7 89	9 50	15 10	17 14	25 14	28 33	38 68	43 50
Illinois.....	9 $\frac{3}{8}$	9 $\frac{3}{8}$	7 78	8 51	14 69	15 13	23 71	24 00	38 58	36 82
Missouri.....	7 $\frac{3}{8}$	9 $\frac{1}{2}$	6 22	8 00	12 36	15 34	21 00	26 12	35 70	38 24
Wisconsin.....	9	9 $\frac{3}{8}$	7 63	9 80	14 06	18 00	23 41	30 00	41 45	50 50
Iowa.....	10	10 $\frac{1}{10}$	7 91	8 00	14 72	14 52	25 17	26 28	41 82	41 60
Minnesota.....	10 $\frac{1}{10}$	10 $\frac{3}{8}$	8 94	9 00	14 70	17 53	21 79	29 00	40 19	50 34
Kansas.....	12 $\frac{1}{9}$	11	8 00	9 58	15 44	16 94	27 55	28 29	45 77	42 58
West Virginia.....	8 $\frac{7}{10}$	9 $\frac{1}{8}$	7 60	11 00	15 80	18 50	25 30	32 00	38 45	47 00
Nebraska Territory.	12 $\frac{1}{2}$	12	9 81	8 70	17 47	15 90	28 50	27 60	48 20	51 50

TABLE 1.—*Showing the amount, in tenths, of farm stock, &c.—Continued.*

States.	MILCH COWS.				SHEEP.					
	Average number of milch cows compared with that of January, 1864.	Average number of milch cows compared with that of February, 1865.	Average price per head of cows, 1865.	Average price per head of cows, 1866.	Average number of sheep compared with that of January, 1864.	Average number of sheep compared with that of February, 1865.	Average price per head of same under 1 year old, 1865.	Average price per head of same under 1 year old, 1866.	Average price per head of same over 1 year old, 1865.	Average price per head of same over 1 year old, 1866.
Maine.....	9	9 $\frac{3}{8}$	\$43 70	\$56 28	11	11 $\frac{1}{2}$	\$4 57	\$3 70	\$5 89	\$5 00
New Hampshire....	8 $\frac{1}{2}$	9 $\frac{5}{8}$	39 30	43 22	11 $\frac{6}{10}$	10 $\frac{3}{8}$	4 22	3 66	5 85	5 22
Vermont.....	9 $\frac{3}{8}$	10	43 11	54 28	11 $\frac{1}{4}$	11	4 44	4 00	6 50	6 57
Massachusetts.....	8	9 $\frac{1}{2}$	52 50	62 00	10 $\frac{4}{10}$	10 $\frac{3}{8}$	4 48	3 75	6 84	5 50
Rhode Island.....	10	9 $\frac{3}{8}$	46 67	65 66	10	11	5 00	4 58	6 83	6 50
Connecticut.....	10	10 $\frac{1}{4}$	40 60	53 75	10	10 $\frac{1}{2}$	4 00	4 37	6 70	6 50
New York.....	10	10 $\frac{7}{8}$	44 31	55 14	10 $\frac{1}{2}$	11 $\frac{1}{10}$	4 26	4 00	5 93	5 36
New Jersey.....	9 $\frac{1}{2}$	9 $\frac{11}{16}$	48 00	70 00	9	10 $\frac{3}{8}$	4 64	5 20	6 77	7 00
Pennsylvania.....	9 $\frac{1}{8}$	10 $\frac{1}{8}$	39 22	51 18	11	11 $\frac{1}{4}$	4 07	3 53	6 15	5 36
Maryland.....	9 $\frac{3}{10}$	9 $\frac{9}{10}$	38 00	41 25	11 $\frac{13}{10}$	10 $\frac{1}{2}$	4 95	4 33	7 71	6 33
Delaware.....	8 $\frac{1}{4}$	10	42 50	75 00	8 $\frac{3}{4}$	10	4 50	3 50	6 50	4 50
Kentucky.....	9	9	42 29	50 00	10 $\frac{1}{2}$	10 $\frac{1}{2}$	4 10	2 90	6 00	4 33
Ohio.....	8 $\frac{5}{8}$	9 $\frac{1}{4}$	35 13	47 33	12 $\frac{1}{8}$	11 $\frac{3}{8}$	3 96	3 33	6 00	5 00
Michigan.....	10	9 $\frac{1}{2}$	32 27	43 52	12 $\frac{1}{4}$	11 $\frac{1}{2}$	3 79	3 00	5 68	4 68
Indiana.....	9	9 $\frac{1}{2}$	32 07	50 33	12 $\frac{7}{10}$	11 $\frac{3}{8}$	3 53	2 50	5 11	3 66
Illinois.....	9 $\frac{1}{2}$	9 $\frac{1}{2}$	30 46	34 84	12 $\frac{3}{8}$	11 $\frac{6}{8}$	3 93	2 75	5 70	4 12
Missouri.....	9	9 $\frac{2}{9}$	20 61	32 87	10 $\frac{3}{4}$	11 $\frac{1}{2}$	2 51	2 00	4 19	3 17
Wisconsin.....	10 $\frac{1}{6}$	10 $\frac{1}{2}$	28 78	35 33	14	13	4 43	3 50	6 18	5 12
Iowa.....	10 $\frac{2}{5}$	10 $\frac{3}{8}$	26 68	30 12	14 $\frac{1}{8}$	13 $\frac{3}{8}$	4 19	2 77	6 00	4 12
Minnesota.....	11 $\frac{1}{2}$	11	26 35	34 92	15 $\frac{1}{4}$	14	3 98	3 39	5 64	4 50
Kansas.....	12 $\frac{2}{5}$	12	26 66	27 94	14	13 $\frac{3}{8}$	3 78	2 66	5 56	4 18
West Virginia.....	9	9 $\frac{3}{8}$	32 81	38 20	10 $\frac{8}{10}$	11 $\frac{1}{6}$	2 70	2 75	4 27	3 50
Nebraska Territory.	13 $\frac{1}{4}$	12	30 63	30 45	18 $\frac{1}{8}$	14 $\frac{1}{2}$	4 37	2 62	6 68	4 11

TABLE 1.—*Showing the amount, in tenths, of farm stock, &c.—Continued.*

States.	HOGS.					
	Average number of hogs compared with that of January, 1864.	Average number of hogs compared with that of February, 1865.	Average price of same per head under 1 year old, 1865.	Average price of same per head under 1 year old, 1866.	Average price of same per head over 1 year old, 1865.	Average price of same per head over 1 year old, 1866.
Maine.....	8 $\frac{2}{10}$	9 $\frac{1}{4}$	\$14 21	\$16 50	\$23 40	\$32 77
New Hampshire.....	7 $\frac{7}{10}$	9 $\frac{5}{8}$	15 50	17 00	30 00	33 28
Vermont.....	8 $\frac{4}{9}$	10 $\frac{7}{9}$	15 00	16 58	28 33	31 87
Massachusetts.....	8	9	14 85	18 00	31 43	36 44
Rhode Island.....	8 $\frac{1}{8}$	9 $\frac{3}{8}$	14 00	18 00	26 66	31 66
Connecticut.....	7 $\frac{4}{5}$	10	14 00	15 50	27 50	34 00
New York.....	8 $\frac{1}{2}$	9 $\frac{3}{5}$	11 90	11 60	20 82	22 54
New Jersey.....	8 $\frac{1}{8}$	10 $\frac{1}{2}$	12 58	12 70	23 00	24 50
Pennsylvania.....	8 $\frac{1}{2}$	10 $\frac{3}{4}$	9 21	9 63	20 81	19 80
Maryland.....	8 $\frac{3}{13}$	11 $\frac{1}{5}$	7 50	7 40	17 66	14 50
Delaware.....	8	10	10 50	.....	27 50	.....
Kentucky.....	8 $\frac{1}{8}$	11 $\frac{1}{5}$	5 34	5 66	11 52	12 50
Ohio.....	7 $\frac{2}{3}$	10 $\frac{1}{3}$	6 94	7 50	16 24	16 00
Michigan.....	8 $\frac{1}{2}$	9 $\frac{3}{8}$	5 26	7 00	13 23	14 78
Indiana.....	7 $\frac{6}{10}$	11 $\frac{1}{6}$	5 44	5 33	12 03	11 33
Illinois.....	8 $\frac{4}{10}$	9 $\frac{5}{8}$	6 85	7 00	14 18	13 93
Missouri.....	7	10	3 40	4 46	8 61	10 15
Wisconsin.....	8 $\frac{1}{2}$	10 $\frac{1}{2}$	6 00	7 33	13 65	15 00
Iowa.....	9	10	5 68	6 00	12 00	12 86
Minnesota.....	9 $\frac{1}{2}$	11 $\frac{1}{4}$	6 23	8 33	15 00	14 87
Kansas.....	7 $\frac{3}{16}$	9 $\frac{1}{4}$	3 63	6 23	10 16	15 00
West Virginia.....	8	12 $\frac{1}{6}$	5 00	5 17	11 36	11 16
Nebraska Territory.....	9 $\frac{1}{2}$	10 $\frac{3}{11}$	5 18	6 25	12 20	14 00

TABLE 1.—*Showing the condition of the weather.*

States.	WEATHER, (in weeks.)											
	January.						February.					
	Favorable.	Wet.	Very wet.	Dry.	Very dry.	Snow.	Favorable.	Wet.	Very wet.	Dry.	Very dry.	Snow.
Maine.....	23	0	0	16	6	11	17	27	2	7	0	4
New Hampshire.....	2	0	0	2	5	11	3	9	0	3	0	1
Vermont.....	8	0	0	9	2	12	9	8	0	3	0	5
Massachusetts.....	17	8	0	7	0	17	16	10	2	10	0	2
Rhode Island.....	4	1	0	3	0	0	1	4	0	3	0	0
Connecticut.....	7	0	0	2	6	1	9	3	0	1	0	0
New York.....	67	18	0	51	0	36	53	44	4	32	0	39
New Jersey.....	17	9	0	7	0	11	11	21	4	2	0	4
Pennsylvania.....	55	18	0	27	0	48	71	46	0	19	0	20
Maryland.....	15	12	6	1	0	6	8	17	9	5	0	1
Delaware.....	0	2	0	2	0	0	0	2	0	2	0	0
Kentucky.....	28	34	6	13	4	5	46	24	2	20	0	3
Ohio.....	95	23	0	36	0	21	73	29	1	26	0	49
Michigan.....	50	6	1	41	5	20	41	12	5	16	2	56
Indiana.....	78	26	4	46	0	30	66	35	3	31	4	56
Illinois.....	101	53	5	38	2	34	105	33	2	39	1	63
Missouri.....	47	31	0	22	0	33	57	31	4	19	3	18
Wisconsin.....	52	7	0	44	0	48	59	4	0	39	2	45
Iowa.....	71	22	5	19	0	71	100	9	0	20	0	61
Minnesota.....	30	2	0	14	0	53	33	1	0	24	2	40
Kansas.....	24	14	0	9	0	23	24	13	0	14	0	20
West Virginia.....	22	14	1	6	2	8	19	10	1	8	1	5
Nebraska Territory.....	14	6	0	1	0	14	20	3	0	1	0	12

IMMIGRATION AT NEW YORK.

MONTHLY ARRIVALS.

January	5,319	July	21,290
February	2,466	August	22,011
March	6,171	September	23,204
April	10,818	October	20,069
May	24,451	November	24,995
June	27,119	December	12,118
		Total	200,031

Exports from New York of the leading agricultural products from January 1, 1866, to March 27, compared with those for the same time in 1865, and their prices in New York and Chicago.

Articles.	1866.	1865.	Prices Mar. 27, in New York.	Prices Mar. 27, in Chicago.
Wheat barrels..	242,844	331,932	\$6 60 to \$10 75	\$4 75 to \$7 50
Rye flour do..	576	785	4 50 to 5 40	4 80
Corn meal do..	25,210	37,922	4 25 to 3 60	
Wheat bushels..	92,015	153,334	2 30 to 2 90	82½ to 1 39
Corn do..	1,417,709	110,256	74 to 90	37½ to 41
Rye do..	116,100	141	70 to 80	49
Barley do..			75 to 1 16	
Oats do..	332,293	17,505	37 to 54½	23¾ to 33
Peas do..	13,151	12,964	1 25 to 1 30	
Cotton bales..	144,615	10,381	33 to 44	
Hay do..	11,993	6,228	60 to 70	50 to 62
Hops do..	144	10,659	30 to 70	30 to 35
Leaf tobacco ... packages..	15,155	21,160	6 to 30	
Tobacco hogsheads..	11,642	23,761		
Manufactured tobacco, pds.	621,602	1,516,174	60 to 1 25	65 to 1 00
Petroleum gallons..	6,908,641	1,970,360	57 to 58	
Pork barrels..	23,198	35,618	24 00 to 26 00	19 00 to 25 37
Beef do..	7,938	11,240	15 00 to 24 00	14 00 to 16 00
Beef tierces..	14,724	24,364		
Cut meats pounds..	12,439,721	15,733,387	11 to 19	
Butter do..	569,291	6,144,148	25 to 45	20 to 40
Cheese do..	2,553,685	8,798,763	18 to 22	17 to 19
Lard do..	9,057,931	10,386,086	16 to 19	18
Tallow do..			11½ to 13½	11½ to 11½
Wool fleece			52 to 80	42 to 48
Sorghum molasses, gallons.				35 to 50

METEOROLOGY.

FEBRUARY, 1866.

Table showing the highest and lowest range of the thermometer, (with dates prefixed,) the mean temperature, and amount of rain, (in inches and tenths,) for February, 1866, at the following places, as given by the observers named. The daily observations were made at 7 o'clock a. m. and 2 and 9 p. m.

Place.	County.	Observer's name.	Date.	Max.	Date.	Min.	Mean.	Rain.
MAINE.								
Steuben	Washington	J. D. Parker	23, 24	46	7	—13	22.7	6.88
Lee	Penobscot	Edwin Pitman	24	54	7	—19	21.8	8.23
West Waterville....	Kennebec	B. F. Wilbur	23, 24	48	7	—14	21.2	6.25
Gardiner	do	R. H. Gardiner	24	47	7	—14	21.4	5.24
Webster	Androscoggin	Almon Robinson	23	46	3, 7	—10	23.1	.....
Standish	Cumberland	John P. Moulton	23	51	7	—8	22.7	5.04
Cornish	York	Silas West	24	48	16	—7	21.7	5.70
Cornishville	do	G. W. Guptill	24	49	16	—8	22.3	5.12
NEW HAMPSHIRE.								
Stratford	Coos	Branch Brown	23, 24	51	16	—15	18.7	3.01
Shelburne	do	F. Odell	24	50	17	—18	.....	.....
North Barnstead....	Belknap	Chas. H. Pitman	24	60	5, 16	—2	25.5	2.28
Concord	Merrimac	John T. Wheeler	24	55	5	—5	23.0	.....
Claremont	Sullivan	S. O. Mead	24	52	3	—8	21.9	.....
Do	do	Arthur Chase	24	53	3	—6	23.8	5.45
VERMONT.								
Lunenburg	Essex	H. A. Cutting	24	57	7	—20	20.4	3.35
Craftsbury	Orleans	Jas. A. Paddock	23	54	16	—16	18.3	3.22
Randolph	Orange	Charles S. Paine	24	49	16	—19	21.8	4.02
Middlebury	Addison	H. A. Sheldon	24	48	16	—8	21.6	4.22
Brandon	Rutland	Harmon Buckland	23	52	16	—8	23.2	5.34
MASSACHUSETTS.								
Topsfield	Essex	A. M. Merriam	24	61	7	9	33.5	3.77
Georgetown	do	Henry M. Nelson	24	57	5, 7	—2	26.5	.....
Newbury	do	Jno. H. Caldwell	24	58	5	—2	26.4	.....
North Billerica	Middlesex	Rev. E. Nason	24	60	3	—4	28.4	.....
Cambridge	do	A. Fendler	24	60	7	—2	27.9	.....
New Bedford	Bristol	Samuel Rodman	23	53	7	1	30.5	4.37
Worcester	Worcester	Joseph Draper, M.D.	24	57	7	0	27.0	5.27
Mendon	do	Jno. G. Metcalf, M.D.	24	56	7	—4	28.6	3.90
Amherst	Hampshire	Prof. E. S. Snell	24	55	7	—3	26.2	4.62

Table showing the range of the thermometer, &c., for February—Continued.

Place.	County.	Observer's name.	Date.	Max.	Date.	Min.	Mean.	Rain.
MASSACHUSETTS—Continued.								
Springfield	Hampden	J. Weatherhead	24	55	7	— 3	27.1	4.86
Westfield	do	Rev. E. Davis	23, 24	55	7	— 2	29.5	4.53
Richmond	Berkshire	Wm. Bacon	23, 24	54	16	— 4	.....	.....
Williams College	do	Prof. A. Hopkins	24	55	16	—15	24.9	1.78
RHODE ISLAND.								
Newport	Newport	Wm. H. Crandall	23, 24	53	7	5	31.3	5.41
CONNECTICUT.								
Pomfret	Windham	Rev. D. Hunt	12	57	7	— 3	26.7	5.03
Columbia	Tolland	Wm. H. Yeomans	11, 23, 24	56	7	5	31.1	.....
Colebrook	Litchfield	Charlotte Rockwell	24	55	7	— 8	23.5	.....
Groton	New London	Rev. E. Dewhurst	23	55	7	0	31.6	4.86
NEW YORK.								
Moriches	Suffolk	Miss N. Smith	23	58	16, 17	11	34.3	5.98
South Hartford	Washington	G. M. Ingalsbe	23	56	16	—10	25.6	4.74
Fishkill Landing	Dutchess	Wm. H. Denning	24	54	7	4	28.5	5.26
Garrison's	Putnam	Thomas B. Arden	24	52	7	1	27.7	3.73
Throg's Neck	Westchester	Miss E. Morris	24	50	16	0	27.6	.....
Do	do	F. M. Rogers	23	56	16	4	28.9	4.81
Deaf & Dumb Inst.	New York	Prof. O. W. Morris	11	59	16	5	34.3	11.00
Columbia College	do	H. B. Cornwall	23	52	16	6	29.6	5.05
Flatbush	Kings	Eli T. Mack	23	52	16	5	29.9	2.17
Newburgh	Orange	James H. Gardiner	23	51	7	0	27.8	5.03
Gouverneur	St. Lawrence	C. H. Russell	23	51	16	—22	20.9	2.97
South Trenton	Oneida	Storrs Barrows	22, 24	50	6	— 2	22.5	5.75
Oneida	Madison	S. Spooner, M. D.	22, 23	48	5	— 6	25.4	5.26
Theresa	Jefferson	S. O. Gregory	23	51	5	—17	20.0	2.90
Depauville	do	Henry Haas	23	49	16	— 8	21.9	3.98
Oswego	Oswego	Wm. S. Malcolm	22	48	16, 17	1	24.6	2.85
Palermo	do	E. B. Bartlett	23	48	5, 6	— 9	20.8	7.20
Skaneateles	Onondaga	W. M. Beauchamp	24	50	16	— 2	33.6	.....
Baldwinsville	do	John Bowman	24	48	16	1	29.3	.....
Nichols	Tioga	Robert Howell	23	57	16	— 2	27.2	.....
Geneva	Ontario	Rev. Dr. W. D. Wilson	22	53	16	0	25.5	1.07
Rochester	Monroe	M. M. Mathews, M. D.	22	53	16	2	26.0	2.39
Do	do	Prof. C. Dewey	22, 23	53	16	— 3	25.6	2.39
Little Genesee	Allegany	Daniel Edwards	23	58	16	—10	24.4	.....
Buffalo	Erie	William Ives	23	54	16	— 5	25.5	2.55
Jamestown	Chautauqua	Rev. S. W. Roe	22, 28	60	16	—16	25.8	4.05
NEW JERSEY.								
Paterson	Passaic	William Brooks	24	55	16	3	29.6	5.67
Newark	Essex	W. A. Whitehead	14	59	16	5	30.2	5.07
New Brunswick	Middlesex	Geo. H. Cook	23, 24	62	16	3	30.6	4.76
Trenton	Mercer	E. R. Cook	24	58	16	8	33.8	6.25
Burlington	Burlington	John C. Deacon	24	64	16	4	32.9	5.20
Moorestown	do	Thomas J. Beans	23	64	16	4	31.9	5.18

Table showing the range of the thermometer, &c., for February—Continued.

Place.	County.	Observer's name.	Date.	Max.	Date.	Min.	Mean.	Rain
NEW JERSEY—Continued.								
Mount Holly	Burlington	M. J. Rhees, M. D. .	24	64	16	8	33.3	.....
Seaville	Cape May	Barker Cole	12	54	5	10	35.3	8.90
Haddonfield	Camden	James S. Lippincott.	11, 24	61	16	3	31.3	4.05
Greenwich	Cumberland	R. C. Sheppard	23	58	16	6	33.4	4.95
PENNSYLVANIA.								
Nyce's	Pike	John Grathwohl	23	49	7	—10	23.0	4.85
Fallsington	Bucks	Ebenezer Hance	24	62	16	7	33.3	5.00
Philadelphia	Philadelphia	Pf. J. A. Kirkpatrick	24	60	16	8	35.2	6.64
Germantown	do	Thomas Meehan	23	59	16	2	31.8	.....
Moorland	Montgomery	Miss Anna Spencer.	23	59	16	3	30.8	5.10
Dyberry	Wayne	Theodore Day	23	59	7	—12	22.7	.....
Nazareth	Northampton	L. E. Ricksecker	11	56	16	0	29.8	.....
North Whitehall	Lehigh	Edward Kohler	24	50	16	—2	29.0	.....
Parkesville	Chester	Fenelon Darlington.	23	57	16	3	30.8	6.14
Oley	Berks	A. S. Bertolet	28	61	16	1	33.8	.....
Ephrata	Lancaster	W. H. Spera	23	68	5	4	31.7	4.57
Silver Spring	do	H. G. Bruckhart	23	56	16	4	30.9	.....
Mountjoy	do	J. R. Hoffer	23	58	16	5	32.6	1.20
Harrisburg	Dauphin	John Heisely, M.D.	23	55	16	6	31.9	4.11
Lewisburg	Union	C. S. James	23	53	7	—5	26.9	2.74
Tioga	Tioga	E. T. Bentley	23	62	16	—8	27.1	2.10
Pennsville	Clearfield	Elisha Fenton	28	55	17	—8	24.4	3.30
Connellsville	Fayette	John Taylor	23	62	16	—9	30.3	.....
New Castle	Lawrence	E. M. McConnell	23	58	16	—7	28.7	.....
Canonsburg	Washington	Rev. Wm. Smith, D.D	22	58	16	—10	27.5	2.54
MARYLAND.								
Woodlawn	Cecil	Jas. O. McCormick ..	23	58	16	4	33.2	5.86
Catonsville	Baltimore	Grape & Ranlett	11	56	16	0	30.6	.....
Annapolis	Anne Arundel	Wm. R. Goodman	23	56	16	4	34.2	5.43
St. Inigoes	St. Mary's	Rev. J. Stephenson ..	11	65	16	3	37.1	4.26
Frederick	Frederick	Miss H. M. Baer	23	60	16	1	30.1	3.25
N. C.								
Wythesville	Wythe	Howard Shriver	10	62	16	—3	34.1	.....
WEST VIRGINIA.								
Cabell Court House.	Cabell	C. L. Roffe	23, 28	64	16	—2	34.2	1.10
NORTH CAROLINA.								
Wilson	Wilson	E. W. Adams, A. M.	24	74	16	10	44.2	2.37
GEORGIA.								
Atlanta	Fulton	Frederick Deckner ..	23	64	16	4	42.1	5.18
MISSISSIPPI.								
Natchez	Adams	Robert McCary	23, 28	70	15	14	47.4	10.70

Table showing the range of the thermometer, &c., for February—Continued.

Place.	County.	Observer's name.	Date.	Max.	Date.	Min.	Mean.	Rain.
ARKANSAS.								
Helena.....	Phillips.....	O. F. Russell.....	28	o 73	15	o 7	o 44.2	In. 6.47
TENNESSEE.								
Clarksville	Montgomery.....	Wm. M. Stewart.....	27	66	15	0	37.6	4.14
KENTUCKY.								
Louisville	Jefferson	Mrs. L. Young	23	67	15, 16	— 3	36.3	2.05
(Near) Chilesburg...	Clark	S. D. Martin, M.D. ..	27, 28	62	16	— 4	34.9	3.35
London.....	Laurel.....	W. S. Doak.....	28	66	16	— 3	33.8	.....
OHIO.								
Austinburg	Ashtabula	E. D. Winchester.....	23	52	16	—14	23.0	.....
Saybrook	do	James B. Fraser.....	23	56	16	—13	24.9	.....
New Lisbon.....	Columbiana	J. F. Benner	22, 23	68	16	— 8	29.1	1.88
East Fairfield.....	do	S. B. McMillan.....	23	54	16	— 8	27.4	1.83
Steubenville.....	Jefferson	Joseph B. Doyle.....	22	56	16	— 3	32.2	.....
Milnersville	Guernsey	Rev. D. Thompson.....	23	61	16	—10	29.0	1.86
East Cleveland	Cuyuhoga	Mr. & Mrs. G. A. Hyde	28	59	16	—11	27.8	2.30
Wooster.....	Wayne	Martin Winger.....	22	58	16	—10	26.3	.....
Gallipolis	Gallia	A. P. Rogers.....	22, 28	61	16	— 2	33.2	2.57
Kelley's Island.....	Erie.....	Geo. C. Huntington ..	22	51	16	—13	26.1	1.68
Norwalk	Huron	Rev. A. Newton.....	28	59	16	—13	26.5	2.17
Westerville.....	Franklin	Pf. H. A. Thompson.....	28	58	16	— 9	27.0	.....
Kingston	Ross	Prof. Jno. Haywood.....	22	64	16	— 7	30.7	2.07
Toledo	Lucas	J. B. Trembly, M.D.....	23	56	16	—16	25.5	2.81
Marion	Marion	H. A. True, M.D.....	28	58	16	—14	25.2	2.22
Urbana University..	Champaign.....	Prof. M. G. Williams.....	22, 28	58	16	—12	26.3	2.25
Hillsboro'.....	Highland	J. McD. Mathews	23	58	16	— 8	29.3	2.33
Ripley	Brown	G. Bambach, M.D.....	22	64	16	— 6	33.6	1.95
Bethel	Clermont	Geo. W. Crane.....	22, 23	62	16	— 8	30.4	1.20
Cincinnati.....	Hamilton	George W. Harper.....	23, 28	62	15	— 6	32.0	1.26
Do	do	R. C. Phillips.....	22, 23	62	16	— 2	39.6	1.10
College Hill.....	do	L. B. Tuckerman	23, 27	58	16	— 7	28.8	0.88
MICHIGAN.								
Monroe.....	Monroe	Miss F. E. Whelpley.....	22	53	16	— 8	26.8	1.80
State Ag. College...	Ingham	Prof. R. C. Kedzie.....	22	54	16	—15	22.7	2.28
Homestead	Benzie	Geo. E. Steele	28	47	26	— 9	18.5	.....
Holland	Ottawa.....	L. H. Streng	28	54	15	— 2	25.8	3.79
Coldwater	Branch	Harvey Haynes.....			16	—20		.....
INDIANA.								
Balbec	Jay	Miss M. Griest.....	22	52	16	—27	20.3	.....
Aurora	Dearborn	Geo. Sutton, M. D.....	22, 23	61	16	—10	31.3	1.31
Vevay	Switzerland	Chas. G. Boerner.....	27	70	16	— 7	33.6	1.84
Richmond	Wayne	John Valentine	23, 28	55	16	—20	25.3	2.51
Spiceland	Henry	Wm. Dawson.....	28	60	16	—21	27.0	2.50
Columbia	Whitley.....	Dr. F. & Miss McCoy.....	28	60	16	—23	25.7	2.05
Indianapolis	Marion	Dr. & Mrs. Butterfield	28	62	16	—15	27.9	.....
New Harmony.....	Posey	Jno. Chappellsmith ..	28	65	15	— 2	34.2	1.95
ILLINOIS.								
Chicago	Cook.....	Samuel Brookes	28	46	16	—20	17.9	.....
Marengo.....	McHenry.....	J. S. Rogers.....	28	52	15	—17	20.7	.....

Table showing the range of the thermometer, &c., for February—Continued.

Place.	County.	Observer's name.	Date.	Max.	Date.	Min.	Mean.	Rain.
ILLINOIS—Cont'd.				°		°	°	In.
Riley	McHenry	E. Babcock	28	53	15	-20	19.3	0.82
Golconda	Pope	W. V. Eldredge	28	70	15	- 8	38.7	1.20
Aurora	Kane	A. Spaulding	28	55	15	-20	21.5	1.42
Sandwich	DeKalb	N. E. Ballou, M.D.	28	53	16	-23	19.6	1.80
Ottawa	La Salle	Mrs. E. H. Merwin	28	57	15	-22	20.9	2.49
Winnebago	Winnebago	J. W. & Miss Tolman	28	53	15	-21	17.9	0.98
Wyanet	Bureau	E. S. & Miss Phelps	28	57	15	-19	21.9	1.51
Tiskilwa	do	Very Aldrich	28	54	16	-17	22.8	.....
Elmira	Stark	O. A. Blanchard	28	62	15	-22	23.3	1.05
Hennepin	Putnam	Smiley Sheppard	28	60	15	-18	23.0	.....
Peoria	Peoria	Frederick Brendel	28	59	15	-13	25.0	1.10
Springfield	Sangamon	G. M. Brinkerhoff	27	60	15	-12	26.6	.....
Loami	do	Timothy Dudley	27, 28	62	15	-16	26.7	1.75
Dubois	Washington	Wm. C. Spencer	28	63	15	- 6	29.2	1.30
Galesburg	Knox	Pf. Wm. Livingston	28	55	15	-17	20.4	0.98
Augusta	Hancock	S. B. Mead, M. D.	28	65	15	-17	26.7	1.43
Mount Sterling	Brown	Rev. A. Duncan	27, 28	62	15	-18	26.2	2.11
Andalusia	Rock Island	Dr. E. H. Bowman	28	58	15	-14	19.6	.....
WISCONSIN.								
Manitowoc	Manitowoc	Jacob Lüps	28	49	15	-11	18.1	1.12
Milwaukee	Milwaukee	I. A. Lapham, LL.D.	28	50	16	-18	19.2	1.64
Do	do	Carl Winkler	28	54	16	-15	21.2	0.65
Ripon	Fond du Lac	Prof. Wm. H. Ward	28	54	15	-22	17.9	.....
Delavan	Walworth	Levens Eddy	28	49	15	-19	17.5	1.55
Waupaca	Waupaca	H. C. Mead	28	50	15	-18	17.2	0.80
Weyauwega	do	J. C. Hicks	28	58	15	- 5	23.3	0.65
Embarras	do	E. Everett Breed	28	56	15	-25	15.7	1.12
Rocky Run	Columbia	W. W. Curtis	28	47	15	-20	16.7	0.94
Baraboo	Sauk	M. C. Waite	28	52	15	-12	21.4	2.25
Beloit	Rock	H. D. Porter	28	48	15	-20	17.3	0.70
Plymouth	Sheboygan	G. Moeller	28	53	15, 25	-20	15.0	1.90
Odanah	Ashland	Edwin Ellis	9	44	15	-16	13.3	1.21
MINNESOTA.								
Afton	Washington	Dr. & Mrs. Babcock	28	44	15	-28	9.5	.....
St. Paul	Ramsey	Rev. A. B. Paterson	28	39	15	-29	8.6	0.30
Minneapolis	Hennepin	Wm. Cheney	21	40	15	-31	6.8	1.88
Forest City	Meeker	H. L. Smith	27	49	15	-33	11.1	.....
Sibley	Sibley	C. A. Woodbury	27	43	15	-37	8.5	.....
New Ulm	Brown	Charles Roos	21, 27, 28	39	15	-20	11.4	0.40
IOWA.								
Clinton	Clinton	P. J. Farnsworth	28	54	15	-24	20.6	3.00
Lyons	do	A. T. Hudson	28	47	15	-22	17.7	0.66
Davenport	Scott	George B. Pratt	28	52	15	-17	19.7	1.21
Dubuque	Dubuque	Asa Horr, M. D.	28	53	15	-20	18.8	1.28
Muscatine	Muscatine	J. P. Walton	28	54	15	-21	17.0	0.58
Fort Madison	Lee	Daniel McCready	28	55	15	-20	27.1	3.05
Monticello	Jones	Chauncey Mead	28	53	15	-26	13.1	1.02
Guttenberg	Clayton	Philip Dorweiler	28	45	15	-23	14.7	1.39
ets	do	J. M. Hagensick	28	49	15	-24	15.1	.....

Table showing the range of the thermometer, &c., for February—Continued.

Place.	County.	Observer's name.	Date.	Max.	Date.	Min.	Mean.	Rain.
IOWA—Continued.								
Manchester.....	Delaware	Allen Mead.....	28	44	15	—24	10.6	In.
Mount Vernon.....	Linn	Prof. A. Collins	28	59	15	—20	18.6	.....
Iowa City	Johnson.....	Prof. T. S. Parvin ..	28	55	15	—20	19.6	1.33
Independence.....	Buchanan	A. C. Wheaton	28	52	15	—30	13.5	3.10
Do	do	D. S. Deering	28	48	15	—20	17.0	.....
Waterloo	Black Hawk.....	T. Steed.....	28	50	15	—19	17.0	.....
Iowa Falls	Hardin	N. Townsend.....	21, 28	42	15	—21	18.3	1.49
Des Moines.....	Polk	Rev. J. A. Nash.....	27, 28	64	15	—22	22.0	0.63
Clarinda	Page	Dr. & Mrs. Kridel- baugh.	27, 28	62	14	—17	24.6	.....
MISSOURI.								
St. Louis University.	St. Louis	Rev. F. H. Stuntebeck	27	68	15	—5	33.8	1.33
St. Louis.....	do	G. Engelmann, M.D.	27	68	15	—7	32.6	2.24
Athens	Clark	J. T. Caldwell.....	27	62	15	—14	29.2	3.70
Canton	Lewis	George P. Ray.....	27	60	15	—20	24.0	0.80
Harrisonville	Cass	John Christian	27	64	15	—8	32.0	1.76
Easton	Buchanan	P. B. Sibley	27	64	15	—21	29.6	0.97
KANSAS.								
Atchison	Atchison	Dr. and Miss Horn..	27	62	15	—17	26.4	.....
Fort Riley.....	Davis	Essex P. Camp	27, 28	70	13, 15	7	33.2	.....
Council Grove.....	Morris	Abner Woodworth..	27	70	15	—6	34.1	.....
NEBRASKA TER.								
Elkhorn.....	Washington	John S. Bowen	28	62	15	—20	25.8	.....
Bellevue	Sarpy	Rev. Wm. Hamilton.	28	65	15	—13	24.8	0.40
Glendale	Cass	A. L. Child, M. D....	28	68	15	—32	22.8	0.66
UTAH TER.								
Great Salt Lake city.	Great Salt Lake.	W. W. Phelps.....	7, 21, 28	50	17	—3	33.0	1.60

Table showing the average temperature and fall of rain (in inches and tenths) for the month of February, in each year named, and for the five years first named, collectively, with the average number of places in each State in which the observations were made.

States and Territories.	Av. number of places.	Averages, 1855.		Averages, 1856.		Averages, 1857.		Averages, 1858.		Averages, 1859.		Av. for five years.		Averages, 1864.		Averages, 1865.		Averages, 1866.	
		Mean temp.	Mean rain.	Mean temp.	Mean rain.	Mean temp.	Mean rain.	Mean temp.	Mean rain.	Mean temp.	Mean rain.	Mean temp.	Mean rain.	Mean temp.	Mean rain.	Mean temp.	Mean rain.	Mean temp.	Mean rain.
Maine.....	5	Deg. 16.2	In. 7.55	Deg. 17.2	In. 1.94	Deg. 16.4	In. 7.88	Deg. 15.4	In. 2.04	Deg. 19.4	In. 4.57	Deg. 27.4	In. 1.58	Deg. 22.6	In. 2.73	Deg. 32.1	In. 6.07	Deg. 29.2	In. 3.55
New Hampshire.....	4	18.8	5.64	14.5	0.93	27.8	3.52	16.6	1.60	23.7	2.56	21.9	1.72	21.9	1.69	22.6	3.55	22.6	4.03
Vermont.....	4	17.7	0.98	14.9	0.94	28.8	3.04	14.9	1.20	22.8	2.29	19.5	1.54	24.4	1.44	18.8	4.03	21.1	4.03
Massachusetts.....	12	21.2	3.38	20.8	1.09	32.6	3.26	24.4	1.68	28.3	4.17	25.1	1.18	30.5	3.05	26.7	3.05	28.0	4.14
Rhode Island.....	1	22.1	4.05	18.7	0.90	32.7	3.26	24.5	2.16	29.3	1.85	26.9	1.00	29.9	2.57	31.3	3.44	31.3	5.41
Connecticut.....	1	19.7	1.83	23.0	1.32	32.8	3.27	21.5	2.80	29.8	3.80	25.6	3.50	29.4	3.37	29.7	4.34	28.2	4.95
New York.....	18	18.0	1.63	15.6	0.84	32.7	2.45	21.5	2.60	29.8	3.41	25.5	0.51	32.8	0.51	30.3	4.47	32.2	5.56
New Jersey.....	4	23.1	3.26	23.7	0.84	37.1	1.77	26.4	2.51	33.4	3.48	29.1	3.37	30.8	0.97	29.6	4.05	29.6	4.05
Pennsylvania.....	19	23.0	2.59	22.2	1.14	36.4	1.54	25.6	1.90	33.6	3.13	28.2	3.03	30.8	0.97	31.1	8.00	29.6	4.70
Delaware.....	1	25.1	2.51	25.1	0.84	36.4	0.88	32.5	1.64	38.4	4.38	32.4	0.71	32.1	4.86	33.0	4.70	33.0	4.70
Maryland.....	5	26.2	2.07	26.1	0.84	40.4	0.68	32.5	1.64	36.9	3.49	31.5	1.74	34.9	0.36	32.1	4.70	33.0	4.70
District of Columbia.....	1	27.0	2.07	27.0	0.64	42.0	0.65	31.0	1.67	38.4	3.54	33.3	1.30	34.9	0.36	32.1	4.70	33.0	4.70
South Carolina.....	6	44.2	1.46	45.9	2.06	57.4	1.01	46.3	0.60	51.4	7.66	40.0	3.51	52.0	1.72	37.6	4.14	37.6	4.14
North Carolina.....	4	35.4	1.30	38.3	2.90	52.5	2.65	36.8	3.21	46.7	3.92	40.0	1.61	49.0	3.56	35.0	2.70	35.0	2.70
Tennessee.....	2	30.5	0.86	29.2	1.92	46.5	3.14	30.2	3.06	40.0	7.56	33.1	3.34	33.1	1.61	32.9	2.62	32.9	2.62
Kentucky.....	4	30.5	1.70	29.2	1.92	30.8	2.50	24.5	2.30	34.0	4.51	29.0	1.61	31.6	1.05	29.2	2.62	29.2	2.62
Ohio.....	19	23.7	1.59	14.2	1.17	27.6	4.36	19.0	2.17	27.7	5.16	21.1	2.18	31.3	2.57	31.4	1.51	31.4	1.51
Michigan.....	4	17.0	0.82	24.2	1.48	41.9	4.60	25.8	2.00	37.0	3.10	25.5	0.80	31.6	1.44	29.3	2.62	29.3	2.62
Indiana.....	13	27.6	0.75	21.3	0.77	34.0	5.18	19.6	1.76	29.7	2.77	18.7	1.33	22.6	1.57	27.2	1.51	27.2	1.51
Illinois.....	9	22.7	1.23	15.4	0.40	25.8	3.30	16.0	0.80	23.3	1.44	11.0	1.33	22.6	1.57	27.2	1.51	27.2	1.51
Wisconsin.....	3	13.1	1.23	15.4	0.40	10.7	3.30	10.1	0.70	14.6	1.44	11.0	1.33	22.6	1.57	27.2	1.51	27.2	1.51
Iowa.....	8	18.3	1.71	16.1	1.33	22.1	6.29	16.5	1.64	26.4	5.35	20.9	3.51	26.6	0.67	27.5	1.86	27.5	1.86
Missouri.....	3	20.9	0.63	26.0	3.64	42.1	6.29	16.5	1.81	23.8	5.35	32.8	3.51	31.2	0.47	34.9	1.86	31.2	0.47
Nebraska Territory.....	3	20.9	0.63	26.0	3.64	42.1	6.29	16.5	1.81	23.8	5.35	32.8	3.51	31.2	0.47	34.9	1.86	31.2	0.47
Kansas.....	3	20.9	0.63	26.0	3.64	42.1	6.29	16.5	1.81	23.8	5.35	32.8	3.51	31.2	0.47	34.9	1.86	31.2	0.47
California.....	2	32.7	2.67	32.2	0.44	50.4	4.87	53.9	2.01	51.0	4.58	52.0	2.91	39.6	3.08	31.2	0.53	31.2	0.53

NOTES OF THE WEATHER—FEBRUARY, 1866.

 FROM THE SMITHSONIAN INSTITUTION.

The most interesting feature of the meteorology of February was the intense cold of the 15th in the western States, being the lowest temperature of the winter west of Pennsylvania. It was accompanied by a severe wind, the influence of which was felt to the Atlantic coast.

St. John, New Brunswick.—Eight inches of snow fell during February; the average of the month for sixteen years is 12.9 inches. The rain-fall was unusually large; there is nothing on record for February nearly equal to it. Another peculiarity was the short time in which it fell. The amount for the month was 6.99 inches. The average since 1850, this month included, is 2.61 inches.

Gardiner, Maine.—In the month of February the thermometer was below zero on seven nights; the river was frozen twenty-eight days; eleven and a half inches of snow fell, and there were twenty-three days of sleighing. The mean temperature of February for thirty years is 20.437° ; the mean moisture of the month for twenty-eight years is 3.269 inches. The moisture of the present month is greater than that of any other February for twenty-eight years, except 1853, when it was 9.467, and 1843 when it was 5.676.

Lisbon, Maine.—February 28.—Snow all gone in the roads, but little in the fields.

Webster, Maine.—February 25.—The rain yesterday and last night washed away nearly all that was left of the snow, except the remnants of deep drifts.

Claremont, New Hampshire.—A heavy thaw occurred on the 23d and 24th of February, which cleared the remaining ice out of Sugar river and broke up the ice in the Connecticut. The ground being frozen hard, all the rain as well as melted snow ran directly into the streams. On the Connecticut river, in this neighborhood, two bridges were carried away, and two more below them damaged. Many sheep and cattle were lost by unexpected setting back of the water. The damage was caused by the very strong ice forming dams at bends of the river, and against islands, thus raising the river in particular places many feet higher than it would have been otherwise.

Shelburne, New Hampshire.—February 25.—Androscoggin river broken up in places.

Stratford, New Hampshire.—February 28.—A little more water in the streams; mills doing more business; wells and springs low yet; the ground frozen so hard that water stands on the surface and forms a great quantity of ice in low and wet places.

Randolph, Vermont.—February 15.—Eight inches of snow fell yesterday afternoon and last night. 20th, red crossbill seen. 22d, sap starts from sugar maples. 24th, thawed all last night and rained to-day from 1 p. m. to 10 p. m. 25th, water rose last night one foot above high-water mark, as observed by a trustworthy person. Ice piled up so as to prevent passing on the highway, eight feet high in some places. Water had fallen about one foot at 7 this morning; many bridges were swept away. Twenty inches of snow fell during the month.

Brandon, Vermont.—February 24.—Brandon river the highest known for many years. 28th, there were fifteen days of good sleighing this month.

Lunenburg, Vermont.—February 24.—Thaw continues; sleighing spoiled; raining hard in the afternoon; streams rising rapidly. 25th, much bare ground; streams very high; ice carried out of the Connecticut river from head of Fifteen-

mile falls; several bridges carried away and much damage done; ice about eighteen inches thick, firm and solid.

Middlebury, Vermont.—Good sleighing about three weeks of the month.

Mendon, Massachusetts.—February 28.—Ground bare of snow; roads muddy; one week only of sleighing for the winter.

New Bedford, Massachusetts.—February 14.—Thunder-storm at night about one o'clock. 28th.—No serious obstruction to navigation as it respects lower harbor, and wharves south of the bridge, has occurred from ice this winter.

Richmond, Massachusetts.—February 8.—The heaviest snow of the season (eight inches) fell to-day, and the prospect of a good run of sleighing is very fine. 12th, raining all day; sleighing destroyed. The quantity of water from the rain and melted snow was unusually large, and came in a good time. In consequence of the frozen state of the ground it did not affect springs, but streams and ponds were filled so as to give a timely relief.

Georgetown, Massachusetts.—February 13.—Distant but distinct peals of thunder and several vivid flashes of lightning, between 1 and 2 o'clock this morning, during a rapid rain-fall. 19th, ground apparently free from frost in a few places. It has not been solidly frozen this winter, although frost has been found twelve or fourteen inches below the surface. At the time of the severest cold, the ground, although entirely free from snow, was also very free from moisture, the probable cause of the slight freeze. 28th, surface again frozen three inches.

Westfield, Massachusetts.—February 18 and 19.—The streams rose and the ice was swept away from the river. 28th, there was very little sleighing, during the month.

Newbury, Massachusetts.—February 14.—Lightning, with some thunder, between 12 and 1 o'clock at night.

Pomfret, Connecticut.—February 12.—Thunder in the night; great rain and damage.

Groton, Connecticut.—February 14.—Very high wind this evening from the east, with rain; very sharp lightning and heavy thunder.

Columbia, Connecticut.—February 14.—Thunder and lightning accompanied the rain this evening.

Depauville, New York.—February 28.—Since the thaw and rain on the 24th, the fields and meadows have been bare, except along fences or where the snow was heaped into banks by drift. Sleighing was good all along the month till the last thaw, when the snow, which had drifted, and lay from one to three feet in the roads, was reduced about one-half, leaving some short sections of the road bare. On the whole, the weather of February was quite favorable for all out-door work of the season. The ground is now frozen from two to three feet. This may be very beneficial, as it will loosen and mellow the soil, and may destroy numbers of eggs and grubs of injurious insects and worms.

Nichols, New York.—February 25.—Susquehanna river crowded all day with floating ice; a large portion of the dam across the river at Towanda was torn away; this will stop navigation for several months on the North Branch canal, Pennsylvania. 28th.—No sleighing of any amount this month or during the winter.

Palermo, New York.—February 4.—A snow-storm set in on the morning of the 2d, and continued with unabated fury to 3½ p. m. to-day. The snow fell three and a half feet on the level. 5th, roads all blocked up with snow. This has been the heaviest snow-storm, except one in February, 1856, within the remembrance of the observer. 9th, first regular mail received in a week. 11th.—Warm rain yesterday and to-day; snow settling very fast. 28th.—Fifty-eight inches of snow fell during the month, the largest amount in the memory of the oldest inhabitants. It has been the coldest February, except in 1865, during the last nine years.

Garrison's, New York.—The weather during February has been very variable. The ground being covered with a slight coating of snow, has in a measure protected the winter grain and grass roots. The frost is found on an average at the depth of ten inches.

South Hartford, New York.—The ground was frozen to a great depth in February; there were about two weeks of sleighing.

Moriches, New York.—February 14.—About 11 p. m. thunder and lightning were noticed three or four times in a westerly direction.

Newburgh, New York.—On the 22d of February the observer skated to Poughkeepsie. The ice was pretty good in places. For two or three days previous to this date the ice would be beautiful and hard in the morning, making good skating, but at noon it began to cut in and become soft. At Poughkeepsie, horses and sleighs were crossing. This had been discontinued at Newburgh for some time. Returned in the cars, and crossed over to Newburgh in the ferry-boat. The ice smoked in the bay; it was wasting rapidly. Where hundreds had been skating a few hours before, the ice would now scarcely bear thirty pounds, and holes appeared in many places. At 5 p. m. it moved for the first time, and the next morning was in motion, and at 7 p. m. on the 23d the bay was nearly clear of ice for the time, having been closed since the 8th of January.

Rochester, New York.—February 14.—A slight freshet in the Genesee river, but not sufficient to break up the ice. 25th, freshet in the Genesee; ice broke up and went over the falls yesterday afternoon. 27th, snow melting very fast; high water in the Genesee. Twenty-one inches of snow fell during the month.

Hector, New York.—February 28.—The winter here has been an open one, but pretty cold; ground frozen more than two feet in depth.

Fishkill on Hudson, New York.—February 23.—The river broke at 7 p. m.; snow entirely gone. The winter has been severe as to snow on grain; the ground has been uncovered four times just before a severe frost.

Newark, New Jersey.—February 28.—During the winter just closed more water fell in rain and melted snow than in any winter covered by the record of the observer. The mean temperature of February was about a tenth of a degree above the average for twenty-two years.

Trenton, New Jersey.—February 12.—About two inches of rain fell to-day. The river is very high, rising about sixteen inches in an hour, caused by the ice being jammed. The ice broke loose from the river at about 3 p. m. This is the first time in seven or eight weeks that the river has been clear of ice. 16th, river, canal, and streams all frozen over again.

Greenwich, New Jersey.—February 6.—Two blue-birds seen near the house to-day. 11th, the crocuses and daffodils are an inch above ground. 12th, in ground destitute of sod, frost is found ten and three-quarters inches deep. 22d, simple carpus fatidus in bloom in the woods. 24th, croaking of frogs first heard.

Burlington, New Jersey.—The river broke on the 14th, froze again on the night of the 15th, and broke up again on the 19th. Frost all out of the ground on the 24th, except in spots protected from the sun.

Seaville, New Jersey.—February 19.—Thunder and lightning at 7 a. m.; the first this winter.

Horsham, Pennsylvania.—Blue-birds were first seen about the middle of February, and snow-drops were found about the same time. During the most of the month the roads have been very deep and travelling difficult.

Pennsville, Pennsylvania.—February has been mostly very favorable for outdoor work; no deep snows or heavy drifts. There were two cold spells—one near the beginning, the other about the middle, of the month. The remainder of the month was moderately warm, but not sufficient to break up the roads. The passing was mostly good, though sometimes wheels were better than run-

ners. At the close of the month the ground is mostly bare, yet hard-frozen except a little on the surface.

Canonsburg, Pennsylvania.—Blue-birds arrived on the 18th and robins on the 23d.

Dyberry, Pennsylvania.—February 28.—During the past winter there has been much less general good sleighing here than common, only February 14 to 18, though on some ridge roads descending northward it has been good all winter. Fields are now getting bare, while ten or twelve inches of snow remains in the woods. The heaviest fall of snow was ten and a half inches on the 8th and 9th of February. Lumbermen are beginning to raft sawed timber.

Tioga, Pennsylvania.—February 28.—The last four days have been warm and spring-like; quite unusual for this country. There has not been one day of good sleighing on the river roads this winter. There have been several light snows, but one would be nearly or quite gone before another came.

Connellsville, Pennsylvania.—Robins seen on the 16th and blue-birds on the 20th. Diffuse lightning in the northeast at 5 a. m. on the 25th; thunder in the southeast at 7 a. m.

Nazareth, Pennsylvania.—A crow black-bird (*quiscalus versicolor*) seen on the 25th; blue-birds plenty every day since the 21st.

Fallsington, Pennsylvania.—February 12.—Rain-storm; Delaware river broke, and the ice went off gently.

Frederick City, Maryland.—February 6th.—Blue-birds singing quite merrily this morning.

Catonsville, Maryland.—February 12.—The cry of wild geese flying north was heard yesterday and to-day.

Wytheville, Virginia.—February 21.—Robins first appear in numbers. 28th, frogs first heard. The ground in garden to-day would admit of being worked; in some shaded fields, near woods, the ground still remains frozen.

Ashland, West Virginia.—February 24.—Thunder and lightning, with hard wind from the west, this morning.

Atlanta, Georgia.—February 24.—Thunder at 7 p. m. in the southwest. 27th, blackberry bushes begin to leaf out.

Natchez, Mississippi.—February 17.—Lightning and thunder in the southwest at 7 p. m.

Grenada, Mississippi.—February 15.—Thermometer 11° at 7 a. m. It is the coldest here since January 6, 1864, when the thermometer was at zero.

Chilesburg, Kentucky.—February 24.—A heavy thunder-storm passed over from the south between two and three o'clock this morning.

Austinsburg, Ohio.—Blue-birds appeared on the 27th. Robins singing on the 28th.

Urbana, Ohio.—Blue-birds seen on the 20th; robins on the 21st. Ground clear of snow on the 22d, having been covered since the 22d of January with the exception of one day, making thirty days. 23d, thunder occasionally from 7½ p. m. to 10½ p. m.

Kingston, Ohio.—February 24.—The frost is all out of the ground, except a stratum about an inch thick at the depth of six inches.

Cleveland, Ohio.—February 16.—Heavy reports and shaking of ground last night, caused by cracks made in the surface of the ground from the effects of the extreme cold.

New Lisbon, Ohio.—February 9.—Blue-birds and robins come.

Marion, Ohio.—February 23.—Thunder-storm in the night.

Milnersville, Ohio.—February 21.—Heard the American robin to-day for the first time. The blue-bird and the great Carolina wren, the cardinal grosbeak, the black-capped and the tufted titmouse, have been here nearly all winter. The common crow and the American starling or meadow lark have been here for about two weeks.

Toledo, Ohio.—The month of February was much colder than usual, and the thermometer on the 16th fell one degree lower than it has been observed here for six years.

Norwalk, Ohio.—The morning of the 16th February was the coldest during the period in which the observer has kept a record, beginning January, 1861. Probably all the cherries, peaches, and many of the grapes are killed in this vicinity.

Gallipolis, Ohio.—Thunder-storm in the morning of the 24th. The cold of the 15th and 16th froze the ground to the depth of ten inches, ground bare; no snow this month.

Saybrook, Ohio.—February 15.—Lake Erie covered with ice as far as can be seen. 15th, cracks in the ground to-day, mostly across the roads. Sharp reports were heard last night, as if some heavy weights were falling. One crack is said to be an inch or two in width.

Hornstead, Michigan.—February 15.—Severe storm all day; much snow fell and drifted. 28th.—The winter has been colder and more severe than for thirteen years past.

Richmond, Indiana.—February 15.—The coldest day the observer has on record so late in the winter; and the coldest twenty-four hours since the 22d of January, 1857.

New Harmony, Indiana.—February 23.—Heavy thunder-storm at 5 p. m.

Aurora, Indiana.—February 23.—Lightning in the west and northwest in the evening. 28th.—The winter has been remarkable for the small amount of snow that fell.

Columbia City, Indiana.—A general thaw occurred about the 22d, causing the river to rise higher than at any time this winter. 23d, lightning, thunder and heavy rain. 24th to 28th, ice breaking up and leaving. 27th, blue-birds appear.

Balbec, Indiana.—February 23.—Thunder-gust at 9 p. m.

Spiceland, Indiana.—February 23.—Several heavy reports of thunder from 8 to 9 p. m.

Marengo, Illinois.—February 27.—Note of prairie hen first heard, by which is understood here, "Winter's broke."

Clinton, Illinois.—February 23.—Heavy thunder at 10½ a. m. several times.

Aurora, Illinois.—February 28.—The ground is frozen to the depth of two and a half feet. The snow and ice on the surface have all disappeared.

Augusta, Illinois.—February 21.—A large body of snow on the ground melted to-day and ran off in the river, raising the creek high with water.

Ottawa, Illinois.—February 14.—The snow storm which commenced on the night of the 12th still continues, and is more severe, and the cold more intense, than any that has heretofore occurred during the winter. A short time before 7 a. m. the snow began drifting. The railroad cars are lying over on account of the drifts. 26th and 27th, the ice is beginning to break in the Illinois river, which is very much swollen.

Riley, Illinois.—The ground is frozen fully four feet deep. The mean temperature of the month is 4.79° below the mean of twelve years; yet the month has been remarkably pleasant and agreeable for business. Sleighing ended on the last day of the month.

Sandwich, Illinois.—Seven inches of snow fell during the night of the 13th, the wind light and changing during the night from northeast to southwest. During the 14th the wind blew a violent gale from the west and the thermometer fell rapidly. The 15th was intensely cold; before noon the wind moderated, and soon changed to southwest, and the cold increased during the night, reaching the lowest point on the morning of the 16th. Owing to the gale the cold was more piercing and penetrating than during the great storm two years ago. The snow was much drifted, travel on many of the railroads suspended for three

or four days, and heavy losses were sustained from injury to locomotives and rolling stock generally.

Coloma, Illinois.—February 22.—Distant thunder in the west from 3 p. m. to 4 p. m. 28th, frost nearly all out of the ground. The mud has rendered the roads almost impassable for the last two weeks.

Springfield, Illinois.—February 14.—The wind blew a gale to-day from the west and northwest, and the worst snow-drifts for many years. Some stock perished in the drifts.

Mount Sterling, Illinois.—Several gentlemen, after carefully examining the peach-buds in their orchards in this town and vicinity, pronounce them all or nearly all killed.

Loami, Illinois.—February 7.—Blue-birds made their appearance. 21st, first song from the robin.

Wyandot, Illinois.—February 14.—The most tedious storm since January 1, 1864. Intensely cold on the 15th, and morning of the 16th. Many fowls and some hogs and calves were frozen to death, and railroads drifted so as to stop travel.

Golconda, Illinois.—February 6.—Blue-birds first appeared. 28th.—No thunder or lightning this winter, and the ground has been at no time covered with snow.

Harrisonville, Missouri.—February 23.—At 4 a. m., thunder commenced in the west, with a shower of hail which continued about half an hour, when it became distant towards the southwest.

Wyaconda Prairie, Missouri.—February 15.—Snow-drifts nearly as high as the fences. 20th, sleighing all gone; it has been good since the 19th of January. 27th, robins singing, prairie chickens crowing, blue-birds returned. 28th, wild ducks and killdeers returned. Wyaconda bottom overflowed since the 23d.

St. Louis, Missouri.—February 21.—Ice running in the river until to-day, so as to interrupt navigation, especially on the 15th to the 18th. Thunder-storm on the 23d at 9 a. m.

Athens, Missouri.—February 14.—The wind blew a gale, driving the snow into immense drifts, filling the lanes running north and south and seriously obstructing travel. 26th, observed the first blue-birds of the season. 28th, numerous flocks of wild geese and ducks going north.

Monticello, Iowa.—February 15.—Ground frozen three and a half feet on the unbroken prairie. 28th, the temperature of wells in this vicinity, as far as examined, is 45° for the lowest, 46° highest. This is the warmest day of the month; snow going rapidly; streams are rising very fast. This has been the coldest month this winter.

Independence, Iowa.—February 28.—The snow is now melting very fast, and a few days like the present will break up the ice and open the river.

Clinton, Iowa.—February has been a very changeable month, with some extremely cold weather; sleighing lasting until the end of the month. There are no air-holes in the river, except one, for miles up and down. The ice is from two to two and a half feet thick, very firm and solid. There have been holes open in every mile or two every winter, during the coldest weather, for four years past. A high river is expected this spring.

Guttenberg, Iowa.—February 14.—Northwest storm from west-northwest set in at 4 a. m., drifting the snow in large masses.

Ceres, Iowa.—February 28.—Frost in the ground four feet deep.

Independence, Iowa.—February 28.—Sleighing has been good for seven consecutive weeks. Yesterday the snow commenced melting, and to-night it has nearly all disappeared. As a consequence, the small streams are overflowing their banks.

Madison, Iowa.—February 13.—Seven and a half inches of snow fell to-

day. 14th, gale from the northwest all day. Drifts in some places in narrow lanes, from five to six feet high, in the evening; some calves froze at night. 15th, the coldest day of the winter. 27th, blue-birds came.

Muscatine, Iowa.—February 21.—Sleighbing about all gone; thirty-seven days in all. 27th.—Ice froze twenty-four inches thick on ponds this winter. March 1st, the last team crossed on the ice on the river; seventy-seven days crossing this winter.

Des Moines, Iowa.—February 13.—Driving snow-storm. 14th, the most uncomfortable day of the winter, intensely cold, with a furious wind. 15th.—Thermometer this morning lower than yesterday, but the cold was not felt so severely on account of the wind having fallen. 28th, observed wild geese passing north for the first time.

Weyauwega, Wisconsin.—February 28.—This is the warmest day since the 15th of November; sleighbing is good yet, but a few days like this will spoil it.

Baraboo, Wisconsin.—February 28.—The winter has been the most remarkable one known in this part of the State for steadiness of temperature, having had no mud, and no extreme cold for this latitude. There has been less high wind than in any previous winter within recollection.

Waupaca, Wisconsin.—Sleighbing has been fine all the month; the cold has been steady, but not much extreme cold. The 15th was the coldest day of the winter. The last day of the month was a beautiful spring day.

New Ulm, Minnesota.—February 14.—Gale from the northwest began last night and continued all this day, and air filled with drifting snow.

Afton, Minnesota.—February 28.—Heavy fog this evening; little or no frost in the ground; snow about twenty inches deep where it is not drifted; ice in the river very thin, owing to the heavy covering of snow.

Atchison, Kansas.—February 18.—Blue-birds are seen and heard singing. 13th, wind light from the northeast; six inches of snow. 14th, gale from the northwest. 26th, the ice in the Missouri river, at this point, begins to move. 28th, the Missouri river clear of ice at noon to-day, and boats crossing.

Fort Riley, Kansas.—February 12.—Snow from 7 to 8 a. m., not measurable. 13th, snow from 1 p. m. till 1 o'clock in the night; at 7 p. m. a heavy gale came up, continuing all night without intermission. 23d, the prairie on fire within half a mile of the fort.

Council Grove, Kansas.—February 16.—Winter broke. 27th, frost all out of the ground.

Bellerue, Nebraska.—The storm on the evening of the 13th commenced about 8 p. m. very suddenly, and was the most violent that has been this winter. The snow that fell on the 12th and 13th was blown from the plains and fields till it found a shelter, leaving the ground bare in most places. Some geese flying north on the 27th and 28th. The river is still closed, and the ground bare except where there are drifts. Frost in the ground except surface of two or three inches.

Glendale, Nebraska.—The observer states that the 14th of February was the coldest day known in Nebraska since the white men have had possession. The mean temperature of the day was 12° below zero, with a fierce wind. The minimum occurred the next morning, 32° below zero. 27th, by digging in on open, level, exposed ground, it was found frozen thirty inches deep. 28th, the Platte and Missouri rivers are breaking up; ice from twenty to twenty-three inches thick. First flock of wild geese seen going north.

Great Salt Lake City, Utah.—February 28.—The winter has been steady; no severe storms; a great amount of snow in the mountains.

Temperature and wind at 7 a. m. January 5-10, 1866.

(Continued from the last report, page 122.)

Place.	January 5.		January 6.		January 7.		January 8.		January 9.		January 10.	
	Tem.	Wind.	Tem.	Wind.	Tem.	Wind.	Tem.	Wind.	Tem.	Wind.	Tem.	Wind.
St. John, New Brunswick..	7	NW.	-18	NW.	-21	NW.	-18	NE.	-1	NE.	9	NE.
Michipicoton, Canada West.	-20	N.	-40	0	-32	N.	-4	SE.	0		0	
White Plains, New York..	4		8		13		-20		4		17	
New Castle, Pennsylvania..	9		16		15		-5		0		9	
Natchez, Mississippi.....	22	N.	26	SE.	46	SE.	48	E.	36	E.	28	SE.
Grenada, Mississippi.....	18	NW.	24	NW.	26	SE.	41	NW.	29	SE.	22	SE.
Steubenville, Ohio.....	12	S.	17	SW.	17	NE.	-6	NW.	4	N.	10	SE.
Thunder Bay Island, Mich.	8				0		12				22	
St. Louis, Mo., Engelmann.	14	SW.	31	S.	27	NW.	19	E.	19	SE.	35	SE.
Helena City, Montana Ter.	10	0	11	S.	21	0	15	S.	12	S.	19	S.
Olympia, Washington Ter.	36		37		36		26		23		25	
Neeah Bay, Washington Ter	42	SW.	40	SW.	36	SW.	38	E.	34	E.	36	SE.
Sacramento, California.....	45	SE.	45	SW.	39	SE.	48	SE.	34	NW.	33	NW.
Monterey, California.....	46	SW.	53	SW.	46	0	39	SW.	42	0	44	S.
Meadow Valley, California.	35		36		27		32		24		26	
San José, Costa Rica.....	63	E.	61	NE.	65	NE.	65	NE.	64	NE.	63	NE.
Aspinwall, Panama.....	79	N.	79	NW.	76	N.	79	SE.	79	SE.	79	NE.

CORRECTION.

In the last report, page 109, fifth line, for "*one* precise hour," read "*the* precise hour."

MONTHLY REPORT

OF THE

DEPARTMENT OF AGRICULTURE

FOR

APRIL, 1866.

WASHINGTON:
GOVERNMENT PRINTING OFFICE.
1866.



MONTHLY REPORT.

DEPARTMENT OF AGRICULTURE, *April*, 1866.

Again and for the last time, I ask attention to the necessity of such legislation as will meet the cattle plague should it be introduced into this country. Great Britain, after relying upon curative means to meet this disease, has been compelled to resort to the "*stamping out*" course, as it is called in that country; the "*isolation*" process, as it is termed here; or the "*cordon*," as it is called in Germany. This is the plan these reports have always insisted upon as absolutely necessary; and to enforce it in this country, whenever necessary, has been my repeated recommendation. The disease, under its favorable operation, is rapidly disappearing in Great Britain. For the purpose of laying before all the provisions of such an act as should be passed by Congress and the State legislatures, the law of Massachusetts is republished in this report. The letter of Charles P. Preston, one of the commissioners of that State, acting under this law, is embodied in this article, and will be read with interest.

In publishing the excellent letter of the American consul at Berlin on the beet sugar manufacture in those German States associated together for commercial purposes under the name of the Zollverein, I accompany it with some important statistics relative to the rise and progress of beet sugar manufacture in France. Few subjects are more interesting to the American people, not only on account of the great consumption here of so necessary an article as sugar, but because it shows how perseverance will ultimately overcome every obstacle in the production of any commodity essential to the well-being of all.

The short article on "sheep killed by dogs" is interesting as showing the great losses incurred by sheep-raisers from the depredations of dogs.

In this report will be found a full statement relative to the numbers, prices and values of the different kinds of live stock in all the loyal States, and in each of these States separately. The first article shows the practical importance of knowing the numbers of each kind of stock. As soon as this department learns the general condition of sheep during the winter and spring, an accurate estimate will be published of the pounds of wool sheared; and thus the country will have before it a leading fact necessary in determining the value of the fleece.

These tables of live stock point out the direction which the market demand for live stock must take for some years. The great scarcity of all stock used and consumed in the south, especially mules and hogs, will guarantee profitable prices for a long time. No farmer can mistake his interests in giving increased attention to the raising of horses and cattle, especially cows. The practice of kill-

ing heifer calves should be abandoned—*must be* if we expect to meet the demand which Great Britain and our home markets will always make for butter and cheese.

This report terminates properly the statistical year of 1865-'66, and with the next number will be commenced our reports of the grain crops of 1866. So far the accounts of the wheat crop are discouraging, as they indicate a short crop over a large part of the country. But the circulars to be returned on the first day of June will fully show the condition of this and other crops at that time. So backward is the season, that earlier accounts cannot be relied upon.

ISAAC NEWTON, *Commissioner*.

LEGISLATION NECESSARY AGAINST THE CATTLE PLAGUE.

In several of the previous reports we have called the attention of Congress and of the public to the absolute necessity of the enactment of such laws as will take immediate hold of any case of cattle plague whenever it may occur. To our remarks that no local legislation had been had on this subject, Mr. Charles P. Preston, of Danvers, Massachusetts, corrects us as to that State, and sends a copy of the law now in force there. We republish this law as a guide to other legislative bodies, and give also the following portions of Mr. Preston's letter, who is one of the commission under this law, having in charge the enforcement of its provisions :

DANVERS, ESSEX COUNTY, MASSACHUSETTS,

April 19, 1866.

DEAR SIR : I send you herewith the laws now in existence in this State relating to contagious diseases among cattle, and I know of no other State, except New Hampshire, having similar laws. An outbreak of the "pleuro" happened in that State in the spring of 1865, and it was eradicated by prompt legislative action. In Massachusetts this disease appears now to be eradicated, after efforts extending from its outbreak in 1860 to the present time, and an expenditure of about \$150,000, no case having come to the commissioners' notice for more than six months.

I am glad to know that you urge the States to take action, as I feel certain, from what I have learned by some years' experience, that no highly contagious disease can be controlled except by such action. Suppose that the rinderpest should break out in this country when Congress is not in session, so far as I know no State but Massachusetts is prepared to take measures *at once* to prevent its ravages, and one or two weeks' loss of time might entail on the country millions of dollars loss. Therefore, if you can prevail on the States to take action and be prepared, you will do most effective work.

The laws which I send comprise the whole, except one act passed since, which empowers commissioners to sell the healthy animals for beef, and is as follows : [We place it at the end of the law.]

You will perceive that the laws of Massachusetts permit action by the selectmen of towns, (known in the western States as trustees of the district or township,) *in case no commission exists*; but if a commission exists, then it has the whole matter in charge, and the selectmen are required, under penalty for neglect, to give it all information in their possession, and otherwise render all such aid as the commission may require.

The process here has been as follows: If the disease is found to exist in a certain herd, that herd is isolated and appraised by three disinterested men. If other herds have been exposed to this, then they are likewise isolated and appraised. If many of these cattle are in high condition, it is judged best to slaughter and sell them for beef; if, on the other hand, they are thin in flesh, it may be best to continue their isolation till all danger is past. The commissioners have also power to prevent the passage of cattle believed to be infected from one town (township) to another, or from another State to this. In fact, I think this law is all that is needed by any State to control any contagious disease that may appear among cattle.

If I can assist you by any further information in my possession to prevent the introduction and spread of the alarming disease now desolating England I shall be very happy to do so.

Very respectfully, your obedient servant,

CHARLES P. PRESTON.

HON. ISAAC NEWTON.

We return our acknowledgements to Mr. Preston for his kind assistance in the efforts we are making to put the country in a condition to meet the cattle plague should it unfortunately be introduced into the United States. We entirely concur with him when he says one or two weeks' loss of time might entail on the country millions of dollars of loss; and it is the duty of this department, of all legislators, and all citizens, to prevent such a misfortune by timely foreseeing and providing against the evil.

The law of Massachusetts was first enacted to eradicate the pleuro-pneumonia, and recently extended to the cattle plague and all other contagious diseases. In its general nature it is the same as used in the western German states—the *cordon*—so often recommended in these reports, and insisted on as the only efficient means of treating the rinderpest. Great Britain, after trying the *curing* process with no other result than to demonstrate the folly of relying upon it, was forced at last to resort to "isolation," and preventing the movement of cattle. This it did in February last, and the result is thus spoken of by the *London Times*:

"The steady decline of the cattle plague continues to justify the legislation of February. The progress of the disease, which up to that time had been constantly maintained, was immediately arrested by the measures adopted, and the return which we published on Saturday last shows only *one-sixth* of the number of cases reported seven weeks before. In the week ending with the 17th of February upwards of 18,000 cases were found to have occurred. In the week ending with the 7th instant, the numbers returned were but 3,361; and though some addition must be made for cases not reported in time for publication, the corrected figures are only 4,008. Upon the whole, therefore, we may fairly suppose that a total of 3,700 cases, in place of 18,300, now represents the proportions to which the plague has been reduced by seven weeks of decisive action."

In laying, then, the following law of Massachusetts before Congress and the States we have the most convincing proofs of its utility and necessity:

AN ACT to provide for the extirpation of the disease called pleuro-pneumonia among cattle.

Be it enacted, &c., as follows :

SECTION 1. The governor is hereby authorized to appoint three commissioners who shall visit without delay the several places in this commonwealth where the disease among cattle called pleuro-pneumonia may be known or suspected to exist, and shall have full power to cause all cattle belonging to the herd in which the disease has appeared, or may appear, or which have belonged to such herds since the disease may be known to have existed therein, to be forthwith killed and buried, and the premises where such cattle have been kept cleansed and purified ; and to make such order in relation to the further use and occupation of such premises as may seem to them to be necessary to prevent the extension of the disease.

SEC. 2. The regulations made by selectmen and mayor and aldermen, in pursuance of the foregoing section, shall be recorded upon the records of their towns and cities respectively, and shall be published in such towns and cities in such manner as may be provided in such regulations.

SEC. 3. Said selectmen and mayor and aldermen are authorized to cause all cattle infected with such disease, or which have been exposed thereto, to be forthwith branded upon the rump with the letter P, so as to distinguish the animal from other cattle ; and no cattle so branded shall be sold or disposed of except with the knowledge and consent of such selectmen and mayor and aldermen. Any person, without such knowledge and consent, selling or disposing of an animal known to be affected with such disease, or known to have been exposed thereto within one year from such sale or disposal, shall be punished by fine not exceeding five hundred dollars, or by imprisonment not exceeding one year.

SEC. 4. Any person disobeying the orders of the selectmen or mayor and aldermen made in conformity with the fourth section, or driving or transporting any neat cattle contrary to the regulations made, recorded, and published as aforesaid, shall be punished by fine not exceeding five hundred dollars, or by imprisonment not exceeding one year.

SEC. 5. Whoever knows or has reason to suspect the existence of any such disease among the cattle in his possession or under his care shall forthwith give notice to the selectmen of the town or mayor and aldermen of the city where such cattle may be kept ; and for failure so to do shall be punished by a fine not exceeding five hundred dollars, or by imprisonment not exceeding one year.

SEC. 6. Any town or city whose officers shall neglect or refuse to carry into effect the provisions of section one, two, three, four, five, six, and seven, shall forfeit a sum not exceeding five hundred dollars for each day's neglect.

SEC. 7. All appraisals made under the provisions of this act shall be in writing, and signed by the appraiser, and the same shall be certified to the governor and council, and to the treasurer of the several towns and cities wherein the cattle appraised belong, by the selectmen and mayors and aldermen, respectively.

SEC. 8. The selectmen of the towns and mayor and aldermen of the cities are hereby authorized, when in their judgment it shall be necessary to carry into effect the purposes of this act, to take and hold possession, for a term not exceeding one year, within their respective towns and cities, of any land, without buildings other than barns thereon, upon which it may be necessary to enclose and isolate any cattle ; and they shall cause the damages sustained by the owners in consequence of such taking and holding to be appraised by the assessors of the town or city wherein the lands so taken are situated ; and they shall further cause a description of such land, setting forth the boundaries thereof, and the area as nearly as may be estimated, together with said ap-

praisal by the assessors, to be entered upon the records of the town or city. The amount of said appraisal shall be paid, as provided in the first section, in such sums and at such times as the selectmen or mayor and aldermen respectively may order. If the owner of any land so taken shall be dissatisfied with the appraisal of said assessors, he may, by action of contract, recover of the town or city wherein the lands lie a fair compensation for the damages sustained by him; but no costs shall be taxed, unless the damages recovered in such action, exclusive of interest, exceed the appraisal of the assessor. And the commonwealth shall reimburse any town or city four-fifths of any sum recovered of such town or city in such action.

AN ACT in addition to an act concerning contagious diseases among cattle.

SECTION 1. In addition to the commissioners appointed under the provisions of chapter one hundred and ninety-two of the acts of the year one thousand eight hundred and sixty, the governor, by and with the advice and consent of the council, is hereby authorized to appoint two additional persons to constitute, with those now in office, a board of commissioners upon the subject of pleuro-pneumonia, or any other contagious disease now existing among the cattle of the commonwealth.

SEC. 2. When said commissioners shall make and publish any regulations concerning the extirpation, cure, or treatment of cattle infected with or which have been exposed to the disease of pleuro-pneumonia, or any other contagious disease; such regulations made by such selectmen and mayors and aldermen shall be suspended during the time, and those made by the commissioners as aforesaid shall be in force. And said selectmen and mayors and aldermen shall carry out and enforce all orders and directions of said commissioners, to them directed, as they shall from time to time issue.

SEC. 3. In addition to the power and authority conferred on the selectmen of towns and mayors and aldermen of cities by the act to which this is an addition, and which are herein conferred upon said commissioners, the same commissioners shall have power to provide for the establishment of a hospital or quarantine in some suitable place or places, with proper accommodations of buildings, land, &c., wherein may be detained any cattle by them selected, so that said cattle so infected and exposed may be there treated as such scientific practitioners of the healing art as may be there appointed to treat the same. And for this purpose said commissioners may take any lands and buildings in the manner provided in the twelfth section of the act to which this is an addition.

SEC. 4. The governor, by and with the advice and consent of the council, is hereby authorized to appoint three competent persons to be a board of examiners to examine into the disease called pleuro-pneumonia, and who shall attend at the hospital at quarantine established by the commissioners mentioned in the foregoing section, and there treat and experiment upon such number of cattle, both sound and infected, as will enable them to study the symptoms and laws of the disease, and ascertain, so far as they can, the best mode of treating cattle in view of the prevention and cure of the disease, and who shall keep a full record of their proceedings, and make a report thereon to the governor and council when their investigations shall have been concluded: *Provided*, That the expense of said board of examiners shall not exceed ten thousand dollars.

SEC. 5. The selectmen of the several towns, and the mayors and aldermen of the several cities, shall, within twenty-four hours after they shall have notice that any cattle in their respective towns and cities are infected with or have been exposed to any such disease, give notice in writing to said commissioners of the same.

SEC. 6. The commissioners are authorized to make all necessary regulations for the treatment, cure and extirpation of said disease, and may direct the selectmen of towns and mayors and aldermen of cities to enforce and carry into effect all such regulations as may, from time to time, be made for that end; and any such officer refusing or neglecting to enforce and carry out any regulation of the commissioners shall be punished by fine not exceeding five hundred dollars for every such offence.

SEC. 7. The commissioners may, when in their judgment the public good shall require it, cause to be killed and buried any cattle which are infected with or which have been exposed to said disease, and said commissioners shall cause said cattle to be appraised in the same manner provided in the act to which this is an addition; and the appraised value of such cattle shall be paid, one-fifth by the towns in which said cattle are kept, and the remainder by the commonwealth.

SEC. 8. Whoever shall drive or transport any cattle from any portion of the commonwealth east of Connecticut river to any part west of said river before the first day of April next, without consent of the commissioners, shall be punished by fine not exceeding five hundred dollars, or by imprisonment in the county jail not exceeding one year.

SEC. 9. Whoever shall drive or transport any cattle from any portion of the commonwealth into any other State before the first day of April next, without the consent of the commissioners, shall be punished by fine not exceeding five hundred dollars, or by imprisonment in the county jail not exceeding one year.

SEC. 10. If any person fails to comply with any regulation made, or with any order given by the commissioners, he shall be punished by fine not exceeding five hundred dollars, or by imprisonment not exceeding one year.

SEC. 11. Prosecutions under the two preceding sections may be prosecuted in any county in this commonwealth.

SEC. 12. All appraisals made under this act shall be in writing, and signed by the appraisers and certified by the commissioners, and shall be by them transmitted to the governor and council, and to the treasurers of the several cities and towns wherein the cattle appraised were kept.

SEC. 13. The provisions of chapter one hundred and ninety-two of the acts of one thousand eight hundred and sixty (except so far as they authorize the appointment of commissioners) are hereby repealed, but this repeal shall not affect the validity of the proceedings heretofore lawfully had under the provisions of said chapter.

SEC. 14. The commissioners and examiners shall keep a full record of their doings, and make report of the same to the next legislature on or before the tenth day of January next, unless sooner required by the governor; and the said record, or an abstract of the same, shall be printed in the annual volume of transactions of the State Board of Agriculture.

SEC. 15. The governor, with the advice and consent of the council, shall have power to terminate the commission and board of examiners whenever, in his judgment, the public safety may permit.

AN ACT concerning contagious diseases among cattle.

SEC. 1. The selectmen of towns and the mayor and aldermen of cities, in case of the existence in this commonwealth of the disease called pleuro-pneumonia, or any other contagious diseases among cattle, shall cause the cattle in their respective towns and cities, which are infected, or which have been exposed to infection, to be secured or collected in some suitable place or places, within such city or town, and kept isolated; and when taken from the possession of their owners, to be maintained, one-fifth of the expense thereof to be paid by the town or city wherein the animal is kept, and four-fifths at the expense of

the commonwealth, such isolation to continue so long as the existence of such disease or other circumstances renders the same necessary.

SEC. 2. Said selectmen and mayor and aldermen, when any such animal is adjudged, by a veterinary surgeon or physician by them selected, to be infected with the disease called pleuro-pneumonia, or any other contagious disease, may, in their discretion, order such diseased animal to be forthwith killed and buried at the expense of such town or city.

SEC. 3. Such selectmen and mayor and aldermen shall cause all cattle which they shall so order to be killed to be appraised by three competent and disinterested men, under oath, at the value thereof at the time of the appraisal, and the amount of the appraisal shall be paid as provided in the first section.

SEC. 4. Said selectmen and mayor and aldermen are hereby authorized to prohibit the departure of cattle from any enclosure, or to exclude cattle therefrom.

SEC. 5. Said selectmen and mayor and aldermen may make regulations in writing to regulate or prohibit the passage from, to, or through their respective cities or towns, or from place to place within the same, of any neat cattle, and may arrest and detain, at the cost of the owners thereof, all cattle found passing in violation of such regulations, and may take all other necessary measures for the enforcement of such prohibition, and also for preventing the spread of any such disease among the cattle in their respective towns and cities, and the immediate vicinity thereof.

SEC. 6. Whenever cattle exposed to contagious diseases are killed by order of the commissioners, and upon post mortem examination shall be found to have been entirely free from disease, it shall be the duty of the commissioners to cause the same to be sold under their direction, first giving the purchaser notice of the fact, and if the said purchaser or any other person shall sell said slaughtered cattle, or any part thereof, they shall in like manner give notice to the parties to whom the same is sold, and the proceeds of the sales made by order of the commissioners shall be applied in payment of the appraised value of said cattle.

BEET - SUGAR.

THE PROGRESS OF ITS MANUFACTURE IN FRANCE AND GERMANY.

In publishing the subjoined letter from H. Kreismann, our consul at Berlin, relative to the manufacture of beet-sugar in the Zollverein, we preface it with some remarks on the rise and progress of its manufacture in France. The history of beet-sugar is not only interesting in itself, but furnishes a useful political lesson in showing the necessity of encouraging a new product, when exposed to foreign competition, by a protective duty.

Although the manufacture of beet-sugar was first established in France, yet the fact that the beet yielded sugar was first ascertained by Margraff, a Prussian, in 1747. But no practical good was accomplished by him. Twenty-five years afterwards, another chemist of Berlin, Archard, renewed the investigation of the subject, under the encouragement of Frederick the Great, but it was not until 1795 that he published anything in reference to it. In theory he maintained the utility of the manufacture, not only for the sugar that the beet would

yield, but because of the profitable use that might be made of the leaves and pulp after the pressure from it of the juice, and the manufacture into alcohol or vinegar of the residues left of the sugar manufacture.

In 1799 he made the first sugar from a farm of sixty acres in beet cultivation. A commission reported favorably, and in the same year the subject was first investigated in France, and the society of agriculture of the Seine awarded a gold medal to Archard. The wars of the first Napoleon leading to a blockade of the ports of the continent, sugar, in France, rose to \$1 20 per pound. This forced Napoleon to a consideration of the best ways of obtaining a home-made supply, and he appointed a commission to examine and report on the matter. In 1810 they made their report in favor of beet-sugar. In 1812 Benjamin Delessert succeeded in producing refined crystallized white beet-sugar, for which the Emperor conferred upon him the Cross. Soon afterwards $1\frac{1}{2}$ per cent. of sugar on the weight of the beet worked was obtained, at a cost of $30\frac{1}{2}$ cents per pound. In 1813, 3,500 tons of 2,240 pounds were made in 334 manufactories.

The peace of 1814 raised the blockade from the ports, and the price of sugar from \$1 20 per pound fell to 14 cents, causing the stoppage of all the manufactories that had been erected for the production of beet-sugar.

France at that time had as cane-producing colonies Martinique, Guadaloupe, Guyane, and Boulon, and in 1814, Louis 18th, King of France, laid a duty of 80 dollars per ton on French colonial sugar, and of 200 dollars per ton on all foreign sugar. In 1825 the manufacture of beet-sugar began to revive, and in 1828 there were 58 manufactories, yielding 2,685 tons of sugar.

At that time, in order to encourage the refining of sugar in France, foreign and colonial cane-sugar was admitted in its brown state only, and a premium upon exportation of the refined sugar was allowed the refiners. These opposed the manufacture of refined sugar from the beet, and combining with the shipping interest in the foreign and colonial sugar trade, demanded an internal tax upon beet-sugar. This demand was defeated, especially through the political events of 1830, and the production of beet-sugar increased. In 1834 it was 20,000 tons; in 1836, 40,000 tons, made in 436 manufactories. But the opponents to this domestic production continued the conflict, and at last succeeded in having an excise tax laid upon it of \$32 88 per ton in 1838. The unfavorable influence of this tax caused a decrease of production, so that in 1840 but 22,000 tons were made, 166 factories were closed, and the manufacture of sugar ceased in 17 departments. In 1840 further legislation was had, resulting in fixing a duty on colonial cane-sugar of 90 dollars per ton, and an excise tax on beet-sugar of 50 dollars per ton; a discrimination of 40 dollars per ton in favor of the latter. In 1842 the quantity of beet-sugar rose to 33,000 tons, but the colonial opposition was renewed, and the government proposed to the Chambers the entire suppression of the beet-sugar trade. It rejected this extraordinary proposition, and the controversy was settled in 1843 by an equal duty and tax of 90 dollars per ton upon colonial and beet-sugar.

In that year the manufacture of beet-sugar was 28,000 tons; the import

of colonial sugar 83,000 tons. In 1847 the first advanced to 50,000 tons, the latter to 88,000. In 1850 the beet-sugar production reached 62,000 tons, and the colonial cane-sugar had decreased to 51,000 tons. In 1852 another change unfavorable to beet-sugar was made by the tariff regulations, and this was followed by two seasons unfavorable for growing the beet; but in 1853 a disease of the vine greatly lessened grape alcohol, which doubled in price, when the manufacturers of beet-sugar turned their attention to the production of alcohol from the beet. The production of beet spirit in 1852 was 352,000 gallons; in 1857 it was 9,240,000 gallons, and that from the vine showed almost an equal decrease. But in this last year the vine recovered from the disease, when the manufacture of beet-sugar was resumed to its full extent. In 1858 its manufacture was 124,000 tons,* and the importation of colonial cane-sugar was 116,000 tons.

In 1860 the internal tax was again changed to 60 dollars per ton on beet-sugar; a duty of \$52 88 was laid on colonial sugar, and of \$66 12 on foreign sugar.

The per cent. of sugar now obtained by improved processes is from 5 to 6; the Germans get from 7 to 8. But in Prussia greater care is observed in the selection of the beets used. The crop is successively immersed in three different tanks of salt water of the densities of 4, 5, and 6 degrees Beaumé; the roots floating in the first tank are rejected; those which float in the second tank form the third quality of beet; those which float in the third tank constitute the second quality of beet, and those which sink in it make the first class of beet. The cost of the production of beet-sugar has been reduced to about four cents per pound; the tax is about three cents, other charges about $1\frac{1}{2}$ cent, making the selling price from 9 to 11 cents per pound.

With this brief account of the rise and present condition of the sugar trade of France, taken, as to its facts, from Marshall's *Population and Trade in France*, 1861-2, we place before the public the letter of Mr. Kreismann, relative to the progress of its production in the Zollverein. It is addressed to the State Department, and this department is indebted to the usual kindness of Mr. Seward for it.

U. S. CONSULATE, *Berlin*, March 17, 1866.

SIR: In view of the circumstance that the question of manufacturing beet-sugar is at this time attracting considerable attention in our country, a brief account of the present extent and condition of that business here in Germany may not be devoid of interest.

In the year 1840-'41 there were in operation in the states of Germany, constituting the Zollverein, 145 beet-sugar factories, 102 thereof in Prussia. These

* 124,000 tons make 277,760,000 pounds. The *New York Journal of Commerce* of May 2d says: "It appears from official returns that the beet-root sugar manufactured in France between the 1st of September and the 28th of February last amounted to 242,114,000 kilogrammes." The kilogramme is equal to 2.2057 pounds. The beet-root sugar crop of France last year was, therefore, 534,130,849 pounds; an increase over the crop of 1858 of 256,370,844 pounds.

factories consumed 3,600,272 centners* (418,364,451 lbs.) of beets, and yielded 281,487 centners (27,390,906 lbs.) of sugar.

In the year 1864-'65 there were 270 factories in operation, consuming 41,641,221 centners (4,723,197,133 lbs.) of beets, and yielding 3,331,297 centners (377,855,693 lbs.) of sugar. Of these factories, 234 were situated in Prussia, using 35,823,805 centners (4,063,350,905 lbs.) of beets, and producing 2,865,904 centners (325,068,027 lbs.) of sugar.

Thus it appears that in the period from 1840-'41 to 1864-'65 the number of factories increased 125, which increase was entirely confined to Prussia, there being a decrease in the other states of the Zollverein from 43 to 36 factories within the same period. The principal seat for the manufacture of beet-sugar is the Prussian province of Saxony, where 131 factories are to be found. The largest factory in the whole Zollverein is located at Waghausel, in the Grand Duchy of Baden. In the year 1864-'65, 1,085,371 centners (123,109,291 lbs.) of beets were made into sugar at that establishment.

The tax on beet-sugar in 1844-'45 yielded in gross receipts to 199,520 Prussian thalers,* (\$138,666 40;) in 1864-'65 this sum had increased to 10,410,392 thalers, (\$7,235,222 44.) In connexion with this increase, however, it is proper to state that the amount of duties collected upon imported sugar diminished with every year. In 1836 the sum of 5,197,502 thalers (\$3,612,263 89) was collected, and in 1864 only 1,086,997 thalers, (\$755,462 91.)

The costs of inspecting the manufacturing of the sugar and of collecting the tax in the year 1844-'45 amounted to 35,197 thalers, (\$24,461 91,) or 17.5 per centum of the whole amount collected. In 1854-'55 they were 167,913 thalers, (\$116,699 53,) or 4.4 per centum upon the entire revenue from beet-sugar; and in 1864-'65, 301,131 thalers, (\$209,286 04,) or only 2.9 per centum upon the whole amount collected.

The amount of taxes raised upon beet-sugar and distributed among members of the Zollverein from 1844 to 1865 has been 89,060,398 thalers, (\$61,896,976 61,) 52.17 per centum whereof has been raised in Prussia.

The population of the Zollverein in 1840 amounted to 26,048,001. In the same year 241,987 centners (27,444,617 lbs.) of beet-sugar were manufactured, and 1,054,400 centners (116,193,594 lbs.) of sugar were imported, amounting together to 1,266,387 centners, (143,638,211 lbs.) Of this, 43,118 centners (4,890,702 lbs.) were re-exported, leaving for home consumption 1,223,269 centners, (138,747,509 lbs.,) at an average rate of 4.69 pounds per caput (inhabitant.)

In the year 1864 the population in the Zollverein amounted to 34,670,523. The amount of beet-sugar manufactured, 3,331,297 centners, (377,855,593 lbs.;) the amount of sugar imported, 254,016 centners, (28,812,018 lbs.,) and the amount exported 156,674 centners, (17,769,905 lbs.,) leaving for home consumption 3,428,639 centners, (388,897,706 lbs.,) at an average rate of 9.20 pounds per caput (inhabitant.) In the year 1836 the cost of one centner of home-made sugar was 28.30 thalers; now it costs only 16.18 thalers, (that is, nearly \$17 32 per 100 lbs. in 1836, but now only \$9 90 per 100 lbs.)

I am, sir, your obedient servant,

H. KREISMANN.

Hon. F. W. SEWARD,

Assistant Secretary of State.

* In changing the Prussian *centner* and *thaler* to our own weights and values we have considered the centner at 113.426 pounds, and the thaler at 69½ cents.

The following table exhibits a summary of the facts above stated, showing the progress of the manufacture, consumption, and revenues derived from sugar in France and the Zollverein:

Years.	Yield per cent. of sugar to beet con- sumed.	Cost per pound.	Amount of su- gar made.	Number of fac- tories.	Amount con- sumed per inhabitant.
FRANCE.					
1813.....	1½	\$0 30½	7,340,000	334	-----
1858.....	5½	10	277,760,000	-----	7½
1865.....	-----	-----	534,130,849	-----	-----
ZOLLVEREIN.					
1840-'41.....	-----	17½	27,390,906	145	4 ⁵⁹ / ₁₀₀
1864-'65.....	7½	10	377,855,693	270	9 ⁵⁹ / ₁₀₀

The *revenue*, according to what has been stated above, in France, derived from the internal taxes on beet-sugar is about \$7,440,000, and about \$6,148,000 on colonial sugar; together, \$13,548,000. The Zollverein collects a revenue from sugar of \$7,235,222, of which only \$775,462 are derived from duties on foreign sugar.

In the United States in 1840 the consumption of foreign and domestic sugar was about 16 pounds per inhabitant, and in 1860, 36 pounds. In the latter year we imported 665,168,000 pounds, and the domestic supply was 265,051,440 pounds.

SHEEP KILLED BY DOGS.

In obtaining from our correspondents the returns relating to live stock in February last, we, without previous notice, asked the question: "How many sheep were killed in your county?" It was intended merely as introductory to a similar question to be asked in the circular, the return day of which will be the first day of July next. The answers received, as we supposed, were but partial, many correspondents not being able to obtain the information in time; others preferred waiting until their State returns had been received, and others making no response. A very limited return was received from 413 counties only. These gave 73,691 sheep killed, averaging 178 to each county.

From the general average value of sheep as given in our tables, which is \$4 50 per head, we have here reported a loss of \$331,609. We see that about one-third of a million of dollars is lost annually in those 413 counties. Large as this amount may appear, yet it is much below the truth, as any one will readily see from the statistics of the State of Ohio, which makes an accurate annual return of the number *killed* and *wounded*, and their value.

The following table exhibits the whole number of sheep in that State, their value, and the number and value of the killed and wounded by dogs:

Years.	Whole number of sheep.	Value.	Number killed.	Number wounded.	Value.
1858.....	3, 377, 840	\$4, 755, 215	60, 536	36, 441	\$146, 758
1859.....	3, 366, 073	5, 442, 984	41, 979	22, 750	102, 398
1860.....	3, 442, 856	5, 879, 357	32, 781	19, 001	86, 795
1861.....	3, 943, 436	6, 681, 427	31, 750	24, 254	86, 434
1862.....	4, 448, 227	7, 837, 041	36, 778	24, 972	136, 347
1863.....	5, 042, 439	14, 337, 058	32, 175	22, 657	146, 026
Total.....	23, 620, 871	44, 935, 082	235, 999	150, 075	704, 758
Annual average....	3, 936, 812	7, 489, 180	39, 333	25, 013	117, 459

It is not to be supposed that there are a less number of sheep killed and wounded in the States embraced in our tables than there are in Ohio. If, then, an average of 3,936,812 gives a loss of \$117,459, the whole number of sheep in these States being 32,695,797 would suffer a loss of \$975,514. The dogs, then, in these States destroy and injure nearly a million dollars' worth of sheep annually. A destruction of this magnitude is not to be endured patiently, and we hope an adequate protection will soon be found in such a national dog tax as will effectually guard the rights and interests of the wool-growers.

The statistics of Ohio show that in 1863 there were in that State 178,472 dogs. Let us suppose that this number in 1860 was 175,000. As this State had in 1860 a population of 2,339,551, and the population of the States in our tables was 22,030,199, the number of dogs in proportion to the population would be 1,647,880. Thus we see that a tax of one dollar per head would fully meet the damages done by them; and surely when legislation is demanded for the protection of wool and woollens, a tax so just should not be denied by Congress.

FARM STOCK:

THEIR NUMBERS, PRICES, AND VALUE, FOR FEBRUARY, 1866.

In this report we republish table No. 1 of our last report, in order that it may go with the tables Nos. 2, 3, 4, 5, and 6 of this number, for they are based upon No. 1.

As often stated, in estimating actual numbers from the returns of our correspondents in *tenths*, we took the census returns of 1860 as the original base upon which the first estimate was made of the numbers. This census does not distinguish the different ages of live stock, and it was important that they should be so distinguished, in order that a more correct valuation of the whole might be made. In the absence of statistics showing the relative proportion of these ages, which in many States is different, according as they are stock-raising or stock-buying States, it was no easy matter to fix an average proportion. After much reflection, a year ago, we settled upon the following proportions, and still adhere to them as being in the main correct.

Horses and mules.—1 year old and under, *one-seventh* of the whole number; between 1 and 2 years old, *one-fourth* of the whole number; between 2 and 3 years old, *one-third* of the whole number; over 3 years old, the *remainder*.

Cattle and oxen.—1 year and under, *one-sixth* of the whole number; between 1 and 2 years old, *two-sevenths* of the whole number; between 2 and 3 years old, *one-third* of the whole number; over 3 years old, the *remainder*.

Cows.—No distinction of ages.

Sheep.—Under 1 year old, *one-fourth* of the whole number; over 1 year old, *three-fourths* of the whole number.

Hogs.—Under 1 year old, *three-fourths* of the whole number; over 1 year old, *one-fourth* of the whole number.

Table No. 1 shows the average *numbers*, stated in *tenths*, increase or decrease for each State, and their average *prices*, as returned by our correspondents in the several counties, for the years 1865, (January,) and 1866, (February.)

Table No. 2 exhibits the number, price and value of the different ages, estimated by the above proportions, and the prices in table No. 1.

Table No. 3 shows the *total numbers* and *value* of each kind of live stock and the average price, ascertained by dividing the whole number of each kind of stock into the total value of each.

Table No. 4 is the same table in effect as No. 3, but so arranged as to show the *numbers* and *value* of the live stock of each State separately.

Table No. 5 exhibits the total numbers for 1860, 1864, 1865, and 1866, the average prices and total value for all the States, for the years 1865 and 1866.

Table No. 6 shows the *total value* of all the live stock in each State for the years 1865 and 1866.

Our *comments* on these tables will follow this last table.

**AMOUNT, IN TENTHS, AND PRICES OF FARM STOCK IN JANUARY, 1865, AND
FEBRUARY, 1866.**

TABLE 1.—*Showing the amount, in tenths, of the farm stock of the States named, in January, 1865, compared with the amount in January, 1864, and the prices of the same in January, 1865, for the different ages, and the amount and prices of the same in February, 1866, compared with those of January, 1865.*

States.	HORSES.									
	Average number of horses compared with that of January, 1864.	Average number of horses compared with that of February, 1865.	Average price per head of same under 1 year old, 1865.	Average price per head of same under 1 year old, 1866.	Average price per head of same between 1 and 2 years old, 1865.	Average price per head of same between 1 and 2 years old, 1866.	Average price per head of same between 2 and 3 years old, 1865.	Average price per head of same between 2 and 3 years old, 1866.	Average price per head of same over 3 years old, 1865.	Average price per head of same over 3 years old, 1866.
Maine.....	9 $\frac{1}{4}$	9 $\frac{3}{4}$	\$34 72	\$39 71	\$54 50	\$62 50	\$80 22	\$83 61	\$112 25	\$126 64
New Hampshire..	9	10 $\frac{1}{10}$	28 89	31 00	48 30	49 44	69 00	69 55	101 70	99 44
Vermont.....	9 $\frac{1}{9}$	9 $\frac{1}{4}$	34 33	32 00	56 33	52 85	77 33	79 00	111 11	118 00
Massachusetts....	9 $\frac{3}{10}$	10	38 33	34 70	55 22	51 70	76 66	82 50	111 70	123 36
Rhode Island....	9 $\frac{3}{8}$	9 $\frac{3}{8}$	33 33	43 33	58 00	70 00	88 33	93 33	111 67	125 00
Connecticut.....	10	11	35 60	36 25	58 40	62 50	84 00	88 75	119 00	117 50
New York.....	8 $\frac{9}{11}$	10	38 11	41 00	64 44	67 90	92 65	97 26	122 00	135 71
New Jersey.....	9 $\frac{1}{2}$	10 $\frac{1}{2}$	49 58	58 00	80 83	89 00	115 41	120 70	142 29	169 66
Pennsylvania....	9 $\frac{1}{8}$	10 $\frac{2}{8}$	40 19	43 00	67 02	68 58	97 70	101 35	113 51	139 66
Maryland.....	9	10 $\frac{3}{4}$	37 34	41 45	58 84	64 50	80 84	93 00	125 81	129 00
Delaware.....	8 $\frac{1}{4}$	11	35 00	40 00	54 00	60 00	77 00	80 00	120 50	120 00
Kentucky.....	7 $\frac{3}{8}$	10	41 25	40 00	58 95	59 33	78 95	83 75	105 00	104 15
Ohio.....	8 $\frac{5}{6}$	10	33 78	34 00	53 96	54 25	78 00	77 50	107 57	110 00
Michigan.....	10 $\frac{1}{2}$	10 $\frac{1}{2}$	36 96	37 87	58 75	62 00	88 27	91 40	121 75	134 55
Indiana.....	9 $\frac{3}{10}$	10 $\frac{3}{8}$	36 12	35 00	57 78	56 00	81 60	77 00	113 13	105 00
Illinois.....	9 $\frac{1}{7}$	10 $\frac{3}{7}$	38 43	38 91	60 00	59 95	87 65	83 00	117 39	114 67
Missouri.....	8	10 $\frac{1}{4}$	38 50	37 52	57 74	57 50	85 76	77 62	107 00	104 25
Wisconsin.....	10 $\frac{1}{2}$	11 $\frac{1}{8}$	36 14	46 00	54 77	74 00	84 44	106 00	115 86	146 00
Iowa.....	10 $\frac{3}{8}$	11 $\frac{1}{4}$	41 28	41 00	61 65	62 25	90 93	94 84	121 87	119 78
Minnesota.....	12	12 $\frac{3}{4}$	41 47	44 55	66 52	81 46	89 94	112 29	120 00	149 92
Kansas.....	11 $\frac{1}{6}$	11 $\frac{3}{8}$	33 00	35 47	53 61	53 52	85 00	78 76	115 83	109 00
West Virginia....	8 $\frac{4}{10}$	11 $\frac{1}{2}$	37 00	36 00	57 00	53 16	79 00	74 00	104 54	100 25
Nebraska Ter'ry..	13 $\frac{1}{2}$	11 $\frac{8}{11}$	39 54	43 33	64 54	67 00	92 72	94 95	120 91	130 50

TABLE 1.—*Showing the amount, in tenths, of farm stock, &c.—Continued.*

States.	MULES.									
	Average number of mules compared with that of January, 1864.	Average number of mules compared with that of February, 1865.	Average price per head of same under 1 year old, 1865.	Average price per head of same under 1 year old, 1866.	Average price per head of same between 1 and 2 years old, 1865.	Average price per head of same between 1 and 2 years old, 1866.	Average price per head of same between 2 and 3 years old, 1865.	Average price per head of same between 2 and 3 years old, 1866.	Average price per head of same over 3 years old, 1865.	Average price per head of same over 3 years old, 1866.
Maine		11½								
New Hampshire.....		9								
Vermont.....		11								
Massachusetts.....										
Rhode Island.....										
Connecticut.....		12								
New York.	10 ₁₁	12	\$44 11	\$51 16	\$76 61	\$82 11	\$111 77	\$116 00	\$151 50	\$141 60
New Jersey	10	11	48 54	50 62	78 73	87 50	115 64	135 50	152 77	174 33
Pennsylvania ..	10½	12 ₁₁	47 22	48 74	81 00	75 60	125 35	119 93	158 37	155 00
Maryland.....	10	11	43 14	48 66	68 57	76 00	100 50	110 00	152 00	146 20
Delaware.....	9	10						80 00		100 00
Kentucky	8	8½	55 63	53 00	78 91	78 25	110 20	111 00	130 87	137 00
Ohio.....	9	11	47 38	42 50	76 00	69 00	109 11	101 00	141 51	134 50
Michigan.....	11½	11½	45 41	47 33	72 72	78 00	106 36	115 62	147 79	153 15
Indiana	9½	11½	47 26	46 10	76 00	71 00	105 00	96 50	138 16	121 00
Illinois.....	10	10½	51 70	49 69	67 73	76 86	113 00	107 80	148 00	134 00
Missouri.....	7½	10½	52 73	49 50	72 00	73 19	112 00	102 00	145 36	132 25
Wisconsin.....	11¼	11½	53 42	52 08	79 00	84 66	112 25	121 66	148 73	160 33
Iowa.....	10	11½	53 47	53 12	79 06	82 38	112 65	118 60	153 00	156 76
Minnesota.	11	12	53 62	60 72	76 87	91 90	117 50	126 00	158 00	162 68
Kansas.....	11	11	51 93	43 00	77 93	67 33	114 11	95 46	161 75	137 00
West Virginia..	8 ₁₀	10½	42 00	40 00	63 00	60 00	90 00	84 00	123 00	114 00
Nebraska Ter ..	13 ₁₀	11	60 28	60 62	88 43	90 71	136 00	128 12	167 22	162 44

TABLE 1.—*Showing the amount, in tenths, of farm stock, &c.—Continued.*

States.	CATTLE AND OXEN.											
	Average number of cattle and oxen compared with that of January, 1864.	Average number of cattle and oxen compared with that of February, 1865.	Average price per head of same under 1 year old, 1865.	Average price per head of same under 1 year old, 1866.	Average price per head of same between 1 and 2 years old, 1865.	Average price per head of same between 1 and 2 years old, 1866.	Average price per head of same between 2 and 3 years old, 1865.	Average price per head of same between 2 and 3 years old, 1866.	Average price per head of same over 3 years old, 1865.	Average price per head of same over 3 years old, 1866.		
Maine.....	8 $\frac{2}{1}$	9	\$12 11	\$14 78	\$23 94	\$26 43	\$37 27	\$44 28	\$68 19	\$79 00		
New Hampshire....	8	9 $\frac{1}{2}$	11 10	12 88	20 40	24 00	34 00	38 48	67 00	76 22		
Vermont.....	8	9 $\frac{3}{4}$	9 78	12 00	21 44	27 00	39 33	46 28	70 00	83 43		
Massachusetts.....	9	9 $\frac{1}{2}$	12 50	14 63	24 50	26 00	40 75	41 36	68 75	66 66		
Rhode Island.....	10	9 $\frac{1}{2}$	12 33	20 00	22 67	28 33	38 33	42 33	63 33	85 00		
Connecticut.....	9 $\frac{1}{2}$	10 $\frac{1}{2}$	10 00	15 00	20 40	29 50	38 00	46 50	68 00	71 25		
New York.....	8 $\frac{2}{3}$	9 $\frac{1}{2}$	11 58	14 64	21 41	26 76	35 83	43 39	62 00	68 90		
New Jersey.....	8 $\frac{2}{3}$	10 $\frac{1}{3}$	14 45	20 00	23 08	34 33	35 21	54 00	63 58	80 00		
Pennsylvania.....	9	9 $\frac{5}{8}$	11 42	14 29	19 71	23 70	31 48	37 74	49 24	57 52		
Maryland.....	8 $\frac{2}{10}$	9 $\frac{2}{11}$	9 92	11 25	16 54	19 00	26 61	26 33	42 30	42 00		
Delaware.....	7 $\frac{2}{3}$	11	10 50	20 00	20 00	30 00	35 00	45 00	48 00	60 00		
Kentucky.....	8 $\frac{1}{2}$	9 $\frac{1}{2}$	10 33	11 00	20 20	20 00	34 33	31 00	52 12	51 00		
Ohio.....	8 $\frac{2}{3}$	9 $\frac{1}{4}$	9 44	12 00	17 41	21 66	28 87	36 00	45 71	54 00		
Michigan.....	9	9	7 83	10 00	15 72	19 29	27 48	33 44	49 00	63 38		
Indiana.....	8 $\frac{1}{3}$	9 $\frac{1}{8}$	7 89	9 50	15 10	17 14	25 14	28 33	38 68	43 50		
Illinois.....	9 $\frac{2}{3}$	9 $\frac{3}{4}$	7 78	8 51	14 69	15 13	23 71	24 00	38 58	36 82		
Missouri.....	7 $\frac{2}{3}$	9 $\frac{1}{2}$	6 22	8 00	12 36	15 34	21 00	26 12	35 70	38 24		
Wisconsin.....	9	9 $\frac{3}{8}$	7 63	9 80	14 06	18 00	23 41	30 00	41 45	50 50		
Iowa.....	10	10 $\frac{1}{6}$	7 91	8 00	14 72	14 52	25 17	26 28	41 82	41 60		
Minnesota.....	10 $\frac{4}{10}$	10 $\frac{2}{3}$	8 94	9 00	14 70	17 53	21 79	29 00	40 19	50 34		
Kansas.....	12 $\frac{1}{9}$	11	8 00	9 58	15 44	16 94	27 55	28 29	45 77	42 58		
West Virginia.....	8 $\frac{7}{10}$	9 $\frac{1}{8}$	7 60	11 00	15 80	18 50	25 30	32 00	38 45	47 00		
Nebraska Territory.	12 $\frac{1}{2}$	12	9 81	8 70	17 47	15 90	28 50	27 60	48 20	51 50		

TABLE 1.—*Showing the amount, in tenths, of farm stock, &c.—Continued.*

States.	MILCH COWS.				SHEEP.					
	Average number of milch cows compared with that of January, 1864.	Average number of milch cows compared with that of February, 1865.	Average price per head of cows, 1865.	Average price per head of cows, 1866.	Average number of sheep compared with that of January, 1864.	Average number of sheep compared with that of February, 1865.	Average price per head of same under 1 year old, 1865.	Average price per head of same under 1 year old, 1866.	Average price per head of same over 1 year old, 1865.	Average price per head of same over 1 year old, 1866.
Maine.....	9	9 $\frac{3}{8}$	43 70	56 28	11	11 $\frac{1}{2}$	\$4 57	\$3 70	\$5 89	\$5 00
New Hampshire....	8 $\frac{1}{2}$	9 $\frac{5}{9}$	39 30	43 22	11 $\frac{5}{10}$	10 $\frac{1}{3}$	4 22	3 66	5 85	5 22
Vermont.....	9 $\frac{3}{8}$	10	43 11	54 28	11 $\frac{1}{4}$	11	4 44	4 00	6 50	6 57
Massachusetts.....	8	9 $\frac{1}{2}$	52 50	62 00	10 $\frac{4}{10}$	10 $\frac{2}{3}$	4 48	3 75	6 84	5 50
Rhode Island.....	10	9 $\frac{3}{8}$	46 67	65 66	10	11	5 00	4 58	6 83	6 50
Connecticut.....	10	10 $\frac{1}{4}$	40 60	53 75	10	10 $\frac{1}{2}$	4 00	4 37	6 70	6 50
New York.....	10	10 $\frac{1}{7}$	44 31	55 14	10 $\frac{4}{5}$	11 $\frac{2}{11}$	4 26	4 00	5 93	5 36
New Jersey.....	9 $\frac{1}{2}$	9 $\frac{1}{3}$	48 00	70 00	9	10 $\frac{1}{3}$	4 64	5 20	6 77	7 00
Pennsylvania.....	9 $\frac{1}{2}$	10 $\frac{1}{8}$	39 22	51 18	11	11 $\frac{1}{4}$	4 07	3 53	6 15	5 36
Maryland.....	9 $\frac{3}{10}$	9 $\frac{2}{11}$	38 00	41 25	11 $\frac{2}{10}$	10 $\frac{1}{2}$	4 95	4 33	7 71	6 33
Delaware.....	8 $\frac{1}{4}$	10	42 50	75 00	8 $\frac{3}{4}$	10	4 50	3 50	6 50	4 50
Kentucky.....	9	9	42 29	50 00	10 $\frac{1}{2}$	10 $\frac{1}{2}$	4 10	2 90	6 00	4 33
Ohio.....	8 $\frac{5}{8}$	9 $\frac{1}{4}$	35 13	47 33	12 $\frac{1}{8}$	11 $\frac{1}{3}$	3 96	3 33	6 00	5 00
Michigan.....	10	9 $\frac{1}{2}$	32 27	43 52	12 $\frac{1}{4}$	11 $\frac{1}{2}$	3 79	3 00	5 68	68
Indiana.....	9	9 $\frac{1}{2}$	32 07	50 33	12 $\frac{7}{10}$	11 $\frac{1}{3}$	3 53	2 50	5 11	3 66
Illinois.....	9 $\frac{1}{2}$	9 $\frac{1}{2}$	30 46	34 84	12 $\frac{3}{8}$	11 $\frac{5}{8}$	3 93	2 75	5 70	4 12
Missouri.....	9	9 $\frac{3}{8}$	20 61	32 87	10 $\frac{1}{2}$	11 $\frac{1}{2}$	2 51	2 00	4 19	3 17
Wisconsin.....	10 $\frac{1}{6}$	10 $\frac{1}{2}$	28 78	35 33	14	13	4 43	3 50	6 18	5 12
Iowa.....	10 $\frac{2}{3}$	10 $\frac{2}{3}$	26 68	30 12	14 $\frac{1}{5}$	13 $\frac{3}{8}$	4 19	2 77	6 00	4 12
Minnesota.....	11 $\frac{1}{2}$	11	26 35	34 92	15 $\frac{1}{4}$	14	3 98	3 39	5 64	4 50
Kansas.....	12 $\frac{3}{8}$	12	26 66	27 94	14	13 $\frac{3}{8}$	3 78	2 66	5 56	4 18
West Virginia.....	9	9 $\frac{3}{8}$	32 81	38 20	10 $\frac{8}{10}$	11 $\frac{1}{6}$	2 70	2 75	4 27	3 50
Nebraska Territory.	13 $\frac{1}{4}$	12	30 63	30 45	18 $\frac{1}{8}$	14 $\frac{1}{2}$	4 37	2 62	6 68	4 11

TABLE 1.—*Showing the amount, in tenths, of farm stock, &c.—Continued.*

States.	HOGS.					
	Average number of hogs compared with that of January, 1864.	Average number of hogs compared with that of February, 1865.	Average price of same per head under 1 year old, 1865.	Average price of same per head under 1 year old, 1866.	Average price of same per head over 1 year old, 1865.	Average price of same per head over 1 year old, 1866.
Maine.....	8 $\frac{3}{10}$	9 $\frac{1}{2}$	\$14 21	\$16 50	\$23 40	\$32 77
New Hampshire.....	7 $\frac{7}{10}$	9 $\frac{5}{8}$	15 50	17 00	30 00	33 28
Vermont.....	8 $\frac{1}{2}$	10 $\frac{1}{2}$	15 00	16 58	28 33	31 87
Massachusetts.....	8	9	14 85	18 00	31 43	36 44
Rhode Island.....	8 $\frac{1}{2}$	9 $\frac{3}{8}$	14 00	18 00	26 66	31 66
Connecticut.....	7 $\frac{1}{2}$	10	14 00	15 50	27 50	34 00
New York.....	8 $\frac{1}{2}$	9 $\frac{3}{8}$	11 90	11 60	20 82	22 54
New Jersey.....	8 $\frac{1}{2}$	10 $\frac{1}{2}$	12 58	12 70	23 00	24 50
Pennsylvania.....	8 $\frac{1}{2}$	10 $\frac{1}{2}$	9 21	9 63	20 81	19 80
Maryland.....	8 $\frac{3}{10}$	11 $\frac{1}{8}$	7 50	7 40	17 66	14 50
Delaware.....	8	10	10 50	.....	27 50	.....
Kentucky.....	8 $\frac{1}{2}$	11 $\frac{1}{8}$	5 34	5 66	11 52	12 50
Ohio.....	7 $\frac{2}{3}$	10 $\frac{1}{8}$	6 94	7 50	16 24	16 00
Michigan.....	8 $\frac{1}{2}$	9 $\frac{3}{8}$	5 26	7 00	13 23	14 78
Indiana.....	7 $\frac{6}{10}$	11 $\frac{1}{8}$	5 44	5 33	12 03	11 33
Illinois.....	8 $\frac{1}{10}$	9 $\frac{5}{8}$	6 85	7 00	14 18	13 93
Missouri.....	7	10	3 40	4 46	8 61	10 15
Wisconsin.....	8 $\frac{1}{2}$	10 $\frac{1}{2}$	6 00	7 33	13 65	15 00
Iowa.....	9	10	5 68	6 00	12 00	12 86
Minnesota.....	9 $\frac{1}{2}$	11 $\frac{1}{2}$	6 23	8 33	15 00	14 87
Kansas.....	7 $\frac{2}{10}$	9 $\frac{1}{2}$	3 63	6 23	10 16	15 00
West Virginia.....	8	12 $\frac{1}{8}$	5 00	5 17	11 36	11 16
Nebraska Territory.....	9 $\frac{1}{2}$	10 $\frac{8}{11}$	5 18	6 25	12 20	14 00

TABLE No. 2,

Showing the number, price, and value of the live stock in each State for the different ages named in Table No. 1, in the month of February, 1866.

States.	HORSES UNDER ONE YEAR OLD.			HORSES BETWEEN ONE AND TWO YEARS OLD.		
	Number.	Average price.	Total value.	Number.	Average price.	Total value.
Maine.....	7,263	\$39 71	\$288,414	12,711	\$62 50	\$794,437
New Hampshire..	4,964	31 00	153,884	8,687	49 44	429,485
Vermont	6,826	32 00	218,432	11,945	52 85	631,293
Massachusetts...	6,930	34 70	240,471	12,127	51 70	626,966
Rhode Island	975	43 33	42,250	1,707	70 00	119,490
Connecticut.....	5,430	36 25	196,837	9,502	62 50	593,875
New York	58,395	41 00	2,394,195	102,191	67 90	6,938,769
New Jersey.....	11,470	58 00	665,260	20,072	89 00	1,786,408
Pennsylvania	56,660	43 00	2,436,380	99,156	68 58	6,800,118
Maryland.....	11,905	41 50	488,105	20,834	64 50	1,343,783
Delaware.....	2,218	40 00	88,720	3,881	60 00	232,860
Kentucky	29,877	40 00	1,195,080	52,284	59 33½	3,102,184
Ohio	74,357	34 00	2,528,138	130,124	54 25	7,059,227
Michigan	24,565	37 87	930,277	42,989	62 00	2,665,318
Indiana	52,950	35 00	1,853,250	92,662	56 00	5,189,072
Illinois	82,015	38 91	3,191,204	143,526	59 95	8,604,384
Missouri.....	33,625	37 52	1,261,609	58,844	57 50	3,383,554
Wisconsin	24,944	46 00	1,147,424	43,652	74 00	3,230,248
Iowa	48,876	41 00	2,003,916	85,534	62 25	5,324,491
Minnesota	5,651	45 55	267,403	9,875	81 46	804,417
Kansas	4,638	35 47	164,513	8,117	53 52	434,422
Nebraska	1,623	43 33	70,330	2,840	67 00	190,280
Total.....	556,157	.....	21,816,092	973,260	.....	60,285,081

TABLE No. 2.—*Showing the number and value of live stock, &c.*—Continued.

States.	HORSES BETWEEN TWO AND THREE YEARS OLD.			OVER THREE YEARS OLD.		
	Number.	Average price.	Total value.	Number.	Average price.	Total value.
Maine	16,948	\$83 61	\$1,417,022	13,922	\$126 64	\$1,763,082
New Hampshire..	11,583	69 55	805,598	9,515	99 44	946,172
Vermont	15,927	79 00	1,258,233	13,083	118 00	1,543,794
Massachusetts ...	16,169	82 50	1,333,942	13,283	123 36	1,638,591
Rhode Island	2,276	93 33	212,426	1,870	125 00	233,750
Connecticut	12,666	88 75	1,124,104	10,411	117 50	1,223,292
New York	136,254	97 26	13,252,064	111,923	135 71	15,189,070
New Jersey	26,763	120 71	3,230,678	21,294	169 66 ² / ₃	3,612,882
Pennsylvania	132,208	101 35	13,399,280	108,599	139 66	15,167,660
Maryland	27,779	93 00	2,583,447	22,816	129 00	2,943,264
Delaware	5,174	80 00	413,920	4,250	120 00	509,000
Kentucky	69,712	83 75	5,838,380	57,263	104 00	5,963,532
Ohio	173,499	77 50	13,445,963	142,518	110 00	15,676,980
Michigan	57,318	91 40	5,238,865	47,084	134 55	6,335,152
Indiana	125,738	77 00	9,681,826	105,865	105 00	11,115,825
Illinois	191,368	83 00	15,883,544	157,296	114 66	18,036,608
Missouri	78,458	77 62	6,089,910	64,448	104 25	6,718,704
Wisconsin	58,202	106 00	6,169,412	47,810	146 00	6,980,260
Iowa	114,045	94 84	10,816,028	93,681	119 78	11,221,110
Minnesota	13,166	112 29	1,478,410	10,808	149 92	1,620,335
Kansas	10,823	78 76	852,419	8,891	119 00	1,058,029
Nebraska	3,786	94 50	357,777	3,110	130 00	404,300
Total	1,299,862	.....	114,883,248	1,069,740	.....	129,901,392

TABLE No. 2—Continued.

States.	MULES ONE YEAR OLD AND UNDER.			MULES BETWEEN ONE AND TWO YEARS OLD.		
	Number.	Average price.	Total value.	Number.	Average price.	Total value.
Maine.....						
New Hampshire..	1	\$20 00	\$20	2	\$30 00	\$60
Vermont.....	5	75 00	375	4	100 00	400
Massachusetts ..						
Rhode Island ..						
Connecticut ..						
New York.....	297	51 16	15,196	519	82 11	42,615
New Jersey.....	1,071	50 62	54,220	1,874	87 50	163,975
Pennsylvania....	1,987	48 74	96,896	3,479	75 60	263,012
Maryland	1,508	48 66	73,388	2,639	76 00	200,564
Delaware.....						
Kentucky.....	8,534	53 00	452,302	14,938	78 25	1,168,898
Ohio	1,184	42 50	50,320	2,095	69 00	144,555
Michigan.....	100	47 33	4,733	175	78 00	13,650
Indiana.....	3,125	46 10	144,062	5,469	71 00	388,299
Illinois.....	7,271	49 69	361,296	12,725	76 86	977,043
Missouri.....	7,446	49 50	368,577	13,032	73 19	953,812
Wisconsin.....	279	52 08	14,531	489	84 66	41,402
Iowa.....	2,005	53 12	106,505	3,509	82 38	289,071
Minnesota.....	113	60 72	6,861	197	91 90	18,204
Kansas.....	356	43 00	15,308	622	67 33	41,881
Nebraska Ter....	177	60 62	10,730	311	90 71	28,211
Total	35,459		1,675,320	62,079		4,735,652

TABLE No. 2—Continued.

States.	MULES BETWEEN TWO AND THREE YEARS OLD.			MULES OVER THREE YEARS OLD.		
	Number.	Average price.	Total value.	Number.	Average price.	Total value.
Maine.....				140	\$75 00	\$10,500
New Hampshire...	3	\$40 00	\$120	3	60 00	180
Vermont.....	12	80 00	960	21	76 00	1,590
Massachusetts.....				119		
Rhode Island.....						
Connecticut.....				105	145 00	15,225
New York.....	692	116 00	80,272	570	141 60	80,712
New Jersey.....	2,499	135 50	338,614	2,053	174 33	357,906
Pennsylvania.....	4,638	119 93	556,235	3,811	155 00	590,705
Maryland.....	3,519	110 00	387,090	2,892	146 20	422,810
Delaware.....	780	80 00	60,400	1,500	100 00	150,000
Kentucky.....	19,917	111 00	2,210,787	16,363	137 00	2,241,731
Ohio.....	2,764	101 00	279,164	1,496	134 50	201,212
Michigan.....	233	115 00	26,939	191	153 00	29,252
Indiana.....	7,292	96 50	733,678	5,992	121 00	725,032
Illinois.....	17,000	107 80	1,832,600	13,903	134 00	1,863,012
Missouri.....	17,376	102 00	1,772,352	14,273	132 25	1,887,604
Wisconsin.....	652	121 66	79,340	536	160 33	85,938
Iowa.....	4,675	118 60	554,455	3,847	156 76	603,076
Minnesota.....	263	126 00	33,138	216	162 68	35,139
Kansas.....	830	95 46	79,231	682	137 00	93,434
Nebraska Ter....	414	128 12	53,042	341	162 44	55,392
Total.....	83,559		9,078,417	69,054		9,550,460

TABLE No. 2—Continued.

STATES.	CATTLE ONE YEAR OLD AND UNDER.			CATTLE BETWEEN ONE AND TWO YEARS OLD.		
	Number.	Average price.	Total value.	Number.	Average price.	Total value.
Maine.....	254,923	\$14 78	\$383,142	44,440	\$26 43	\$1,174,549
New Hampshire..	19,128	12 88	246,368	32,792	24 00	787,008
Vermont	23,901	12 00	286,812	40,962	27 00	1,105,974
Massachusetts ...	19,455	14 63	284,627	33,352	26 00	867,152
Rhode Island....	3,403	20 00	68,060	4,830	28 33	136,850
Connecticut	23,309	15 00	349,635	39,958	29 50	1,178,761
New York.....	112,997	14 64	1,654,277	207,546	26 76	5,553,931
New Jersey.....	14,896	20 00	297,920	25,536	34 33	876,736
Pennsylvania....	112,257	14 29	1,604,152	192,440	23 70	4,560,828
Maryland	19,270	19 25	216,787	33,034	19 00	627,646
Delaware.....	5,024	20 00	100,480	8,612	30 00	258,360
Kentucky	58,074	11 00	638,814	49,778	20 00	995,560
Ohio	118 588	12 00	1,423,056	203,294	21 66	4,403,348
Michigan.....	49,352	10 00	493,520	84,603	19 29	1,631,992
Indiana	83,807	9 50	796,166	143,670	17 14	2,462,503
Illinois	153,645	8 50	1,305,982	263,678	15 13	3,987,438
Missouri.....	74,576	8 00	596,608	127,845	15 34	1,961,142
Wisconsin	60,967	9 60	585,293	104,514	18 00	1,881,252
Iowa.....	95,115	8 00	760,920	163,055	14 52	2,367,559
Minnesota	22,609	9 00	203,481	38,758	17 53	679,428
Kansas.....	21,718	9 58	208,058	37,230	16 94	630,676
Nebraska	10,721	8 70	93,273	18,379	15 90	292,226
Total	1,128,735	.....	12,597,431	1,898,306	.....	38,420,919

TABLE No. 2—Continued.

STATES.	CATTLE BETWEEN TWO AND THREE YEARS OLD.			CATTLE OVER THREE YEARS OLD.		
	Number.	Average price.	Total value.	Number.	Average price.	Total value.
Maine.....	51,847	\$44 28	\$2,295,785	33,331	\$79.00	\$2,633,149
New Hampshire..	38,256	38 44	1,470,561	24,594	76 22	1,874,555
Vermont	47,801	46 28	2,212,220	30,740	83 43	2,564,638
Massachusetts ...	38,910	41 36	1,609,318	25,041	66 66	1,669,233
Rhode Island	6,806	42 33	288,120	5,378	85 00	457,130
Connecticut	46,618	46 50	2,167,737	29,869	71 25	2,128,166
New York.....	242,137	43 39	10,506,324	163,732	68 90	11,281,135
New Jersey.....	29,261	54 00	1,580,094	20,097	80 00	1,607,760
Pennsylvania	224,513	37 74	8,473,121	164,141	57 52	9,441,390
Maryland	38,541	26 33	1,014,913	24,778	42 00	1,040,676
Delaware.....	10,047	45 00	452,115	6,460	60 00	387,600
Kentucky	116,145	31 00	3,600,495	167,767	51 00	8,555,117
Ohio	237,177	36 00	8,538,372	152,472	54 00	8,233,488
Michigan.....	98,703	33 44	3,200,628	63,453	63 38	4,021,651
Indiana	167,615	28 33	4,745,758	107,752	43 50	4,687,232
Illinois	307,625	24 00	7,383,000	197,926	36 82	7,287,635
Missouri.....	149,152	26 12	3,895,850	95,883	38 24	3,665,566
Wisconsin.....	121,934	30 00	3,658,020	88,387	50 50	4,463,543
Iowa.....	190,231	26 28	4,999,271	122,292	41 60	5,087,347
Minnesota	45,217	29 00	1,311,293	29,069	50 33	1,550,340
Kansas	43,436	28 29	1,228,804	27,923	42 58	1,188,961
Nebraska.....	21,442	27 60	591,799	13,784	51 50	709,876
Total.....	2,273,414	.....	75,223,598	1,594,869	.....	84,536,188

TABLE No. 2—Continued.

STATES.	SHEEP UNDER ONE YEAR OLD.			SHEEP OVER ONE YEAR OLD.		
	Number.	Average price.	Total value.	Number.	Average price.	Total value.
Maine.....	260,431	\$3 70	\$963,595	781,293	\$5 00	\$3,906,465
New Hampshire..	169,393	3 66	621,107	508,178	5 22	2,652,689
Vermont	344,324	4 00	1,377,296	1,032,972	6 57	6,786,626
Massachusetts ...	52,509	3 75	196,908	157,527	5 50	866,398
Rhode Island	8,971	4 58	41,087	26,913	6 50	174,934
Connecticut	47,077	4 37	205,726	141,231	6 50	918,001
New York	1,279,287	4 00	5,117,148	3,837,861	5 36	20,570,935
New Jersey.....	45,274	5 20	235,425	135,822	7 00	950,754
Pennsylvania.....	807,610	3 53	2,850,863	2,422,830	5 36	12,986,359
Maryland	65,644	4 33	284,457	196,932	6 33	1,247,236
Delaware.....	4,375	3 50	15,312	13,125	4 50	59,062
Kentucky	213,517	2 90	619,199	640,551	4 33	2,775,721
Ohio	1,642,013	3 33	5,473,377	4,926,039	5 00	24,630,195
Michigan.....	868,268	3 00	2,604,804	2,604,807	4 68	12,190,496
Indiana	695,842	2 50	1,739,605	2,087,525	3 66	7,654,259
Illinois	611,268	2 75	1,680,987	1,834,813	4 12	7,559,430
Missouri	207,749	2 00	415,498	623,250	3 17	1,975,702
Wisconsin.....	315,225	3 50	1,103,287	945,675	5 12	4,841,856
Iowa.....	487,688	2 77	1,350,896	1,463,064	4 12	6,027,823
Minnesota	22,624	3 39	76,695	67,872	4 50	305,424
Kansas.....	20,665	2 66	55,106	61,997	4 18	259,147
Nebraska.....	3,941	2 62	10,325	11,825	4 11	47,582
Total.....	8,173,695	.....	27,038,703	24,522,102	.....	121,047,518

TABLE No. 2—Continued.

STATES.	HOGS UNDER ONE YEAR OLD.			HOGS OVER ONE YEAR OLD.		
	Number.	Average price.	Total value.	Number.	Average price.	Total value.
Maine.....	26,514	\$16 50	\$437,481	8,841	\$37 77	\$333,925
New Hampshire..	23,499	17 00	399,483	7,834	33 28	260,715
Vermont	24,681	16 58	410,211	8,227	31 87	262,194
Massachusetts ...	34,162	18 00	614,916	11,387	36 44	414,942
Rhode Island	8,768	18 00	157,824	2,922	31 66	92,511
Connecticut.....	39,267	15 50	608,638	13,089	34 00	445,026
New York	503,988	11 60	5,846,260	167,996	22 54	3,786,630
New Jersey.....	144,473	12 70	1,834,807	48,157	24 50	1,179,846
Pennsylvania	669,024	9 63	6,242,701	223,008	19 80	4,415,558
Maryland.....	276,297	7 40	2,044,598	92,099	14 50	1,335,435
Delaware.....	24,074	7 50	180,555	8,024	15 00	120,360
Kentucky	1,345,917	5 66	7,626,863	448,639	12 50	5,607,987
Ohio.....	1,378,861	7 50	10,341,457	459,620	16 00	7,353,920
Michigan.....	263,263	7 00	1,842,841	87,754	14 78	1,297,004
Indiana	1,696,335	5 33	9,047,120	565,445	11 33	6,408,273
Illinois.....	1,482,156	7 00	10,375,092	494,052	13 93	6,882,144
Missouri.....	741,643	4 46	3,307,728	247,214	10 15	2,509,222
Wisconsin.....	268,251	7 33	1,967,174	89,417	15 00	1,341,255
Iowa.....	1,067,676	6 00	6,406,056	355,892	12 86	4,576,771
Minnesota	95,776	8 33	798,128	31,925	14 87	466,903
Kansas.....	71,572	6 23	445,894	23,857	15 00	357,855
Nebraska.....	26,460	6 25	165,375	8,820	14 00	123,480
Total	10,212,657	.....	71,101,202	3,404,219	.....	49,571,956

TABLE No. 3.

Showing the total number and total value of each kind of live stock, and the general average price thereof, for each State, for February, 1866.

STATES.	HORSES.			MULES.		
	Number.	Average price.	Total value.	Number.	Average price.	Total value.
Maine	50,844	\$83 82	\$4,262,955	140	\$75 00	\$10,500
New Hampshire .	34,749	74 38	2,335,139	9	42 22	380
Vermont	47,781	72 31	3,651,752	42	70 00	3,325
Massachusetts ...	48,509	79 00	3,839,970	119	.....	.....
Rhode Island.....	6,828	89 00	607,916	.....	.....	.....
Connecticut	38,009	82 56	3,138,108	105	145 00	15,225
New York.....	408,763	92 41	37,774,098	2,078	100 43	218,795
New Jersey	79,599	116 77	9,295,228	7,497	122 00	914,715
Pennsylvania.....	396,623	95 31	37,803,438	13,915	108 43	1,506,848
Maryland	83,334	85 90	7,358,599	10,558	102 65	1,083,852
Delaware	15,523	80 10	1,244,500	2,280	92 28	210,400
Kentucky	209,136	76 97	16,099,176	59,752	101 98	6,073,718
Ohio	520,498	74 37	38,710,308	7,539	89 33	675,251
Michigan	171,956	88 22	15,169,612	699	106 69	74,574
Indiana.....	377,215	73 80	27,839,973	21,878	91 00	1,991,071
Illinois	574,205	79 61	45,715,740	50,899	98 00	5,033,951
Missouri	235,375	74 11	17,453,777	52,127	95 76	4,982,345
Wisconsin	174,608	100 38	17,527,344	1,956	113 00	221,211
Iowa	342,136	85 82	29,365,545	14,036	110 65	1,553,107
Minnesota	39,500	105 33	4,160,565	789	117 00	93,342
Kansas	32,469	77 28	2,509,383	2,490	92 31	229,854
Nebraska Ter....	11,359	97 00	1,022,687	1,243	128 56	147,375
Total	3,899,019	.....	326,885,813	250,151	.....	25,039,839
Average price ..	.....	83 84	.....	.....	100 09	.....

TABLE No. 3—Continued.

STATES.	CATTLE AND OXEN.			COWS.		
	Number.	Average price.	Total value.	Number.	Average price.	Total value.
Maine	155,541	\$41 70	\$6,486,625	129,891	\$56 28	\$7,310,265
New Hampshire ..	114,770	38 15	4,378,492	74,378	43 22	3,214,617
Vermont	143,404	43 00	6,169,644	162,356	54 28	8,812,684
Massachusetts ..	116,758	37 94	4,430,330	127,415	62 00	7,899,730
Rhode Island....	20,417	46 53	950,160	20,581	65 66	1,351,485
Connecticut	139,754	41 67	5,824,299	112,482	53 75	6,045,907
New York	726,412	38 53	28,995,667	1,237,631	55 14	68,242,973
New Jersey	89,790	48 58	4,362,510	131,170	70 00	9,181,900
Pennsylvania....	693,351	34 72	24,079,491	655,397	51 18	33,962,485
Maryland	115,623	25 43	2,900,022	94,845	41 20	3,907,614
Delaware	30,143	39 72	1,198,555	19,215	75 00	1,441,125
Kentucky	391,764	35 38	13,789,986	155,112	50 00	7,755,600
Ohio	711,531	31 76	22,598,264	664,065	47 33	31,432,410
Michigan	296,111	31 56	9,347,791	219,784	43 52	9,564,100
Indiana	502,844	25 00	12,691,659	422,883	50 33	21,285,111
Illinois	922,874	21 64	19,964,055	523,761	34 84	18,247,833
Missouri	447,456	22 61	10,119,166	251,088	32 87	8,253,261
Wisconsin	375,802	28 12	10,588,108	284,286	35 33	10,044,872
Iowa	570,693	23 15	13,215,097	313,739	30 12	9,451,387
Minnesota	135,653	27 60	3,744,542	86,644	34 92	3,025,608
Kansas	130,307	25 00	3,256,499	71,996	27 94	2,013,568
Nebraska Ter ...	64,326	26 22	1,687,174	20,925	34 86	637,166
Total	6,895,324	.....	210,778,136	5,779,644	.....	273,081,701
Average price...	.....	35 57	.....	.....	47 25	.....

TABLE No. 3—Continued.

STATES.	SHEEP.			HOGS.		
	Number.	Average price.	Total value.	Number.	Average price.	Total value.
Maine	1,041,724	\$4 67	\$4,870,060	35,355	\$24 64	\$771,406
New Hampshire .	677,571	4 84	3,273,796	31,333	21 00	660,198
Vermont	1,377,296	5 92	8,163,922	32,908	20 43	672,405
Massachusetts ...	210,036	5 30	1,063,306	45,549	22 61	1,029,858
Rhode Island....	35,884	6 00	216,021	11,690	21 41	250,335
Connecticut	188,308	5 97	1,123,727	52,356	20 12	1,053,664
New York	5,117,148	5 00	25,688,083	671,984	14 33	9,632,890
New Jersey	181,096	6 55	1,186,179	192,630	15 64	3,014,653
Pennsylvania....	3,230,440	4 90	15,837,222	892,032	11 94	10,658,259
Maryland	262,576	5 83	1,531,693	368,396	9 17	3,380,033
Delaware	17,500	4 25	74,374	32,098	9 37	300,915
Kentucky	864,068	3 97	3,394,920	1,794,556	7 37	13,234,850
Ohio	6,568,052	4 58	30,103,572	1,838,481	9 62	17,695,377
Michigan	3,473,075	4 26	14,795,200	351,017	8 66	3,139,845
Indiana	2,783,367	3 30	9,393,864	2,261,780	6 83	15,455,393
Illinois	2,446,081	3 77	9,240,417	1,976,208	8 73	17,257,236
Missouri	830,999	2 87	2,391,200	988,857	5 88	5,816,950
Wisconsin	1,260,900	4 71	5,945,143	357,668	9 25	3,308,429
Iowa	1,950,752	3 78	7,378,719	1,423,568	7 71	10,982,827
Minnesota	90,496	4 22	382,119	127,701	9 91	1,265,031
Kansas	82,662	3 80	314,253	95,429	8 42	803,749
Nebraska Ter....	15,766	3 67	57,907	35,280	8 20	288,855
Total	32,695,797	.....	146,425,697	13,616,876	.....	120,673,158
Average price..	.....	4 50	.....	.....	8 86	.....

TABLE No. 4,

Showing the total number and the average price thereof, and the total value of each kind of live stock, for each State separately, as taken from the preceding tables.

Live stock.	Number in February, 1866.	Average price.	Total value.	Number in February, 1866.	Average price.	Total value.
MAINE.				NEW JERSEY.		
Horses.....	50,844	\$83 82	\$4,262,955	79,599	\$116 77	\$9,295,238
Mules.....	140	75 00	10,500	7,497	122 00	914,715
Cattle and oxen..	155,541	41 70	6,486,625	89,790	48 58	4,362,510
Cows.....	129,891	56 28	7,310,265	131,170	70 00	9,181,900
Sheep.....	1,041,724	4 67	4,870,060	181,096	6 55	1,186,179
Hogs.....	35,355	24 64	771,406	192,630	15 64	3,014,653
Total.....			23,721,811			27,055,185
NEW HAMPSHIRE.				MASSACHUSETTS.		
Horses.....	34,749	\$74 38	\$2,335,139	48,509	\$79 00	\$3,839,970
Mules.....	9	42 22	380	119		
Cattle and oxen..	114,770	38 15	4,378,492	116,758	37 94	4,430,330
Cows.....	74,378	43 22	3,214,617	127,415	62 00	7,899,730
Sheep.....	677,571	4 84	3,273,796	210,036	5 30	1,063,306
Hogs.....	31,333	21 00	660,198	45,549	22 61	1,029,858
Total.....			13,862,622			18,263,194
VERMONT.				RHODE ISLAND.		
Horses.....	47,781	\$72 31	\$3,651,752	6,828	\$89 00	\$607,916
Mules.....	42	70 00	3,325			
Cattle and oxen..	143,404	43 00	6,169,644	20,417	46 53	950,160
Cows.....	162,356	54 28	8,812,684	20,581	65 66	1,351,485
Sheep.....	1,377,296	5 92	8,163,922	35,884	6 00	216,021
Hogs.....	32,908	20 43	672,405	11,690	21 41	250,335
Total.....			27,473,732			3,375,917
CONNECTICUT.				PENNSYLVANIA.		
Horses.....	38,009	\$82 56	\$3,138,108	396,623	\$95 31	\$37,803,438
Mules.....	105	145 00	15,225	13,915	108 43	1,506,848
Cattle and oxen..	139,754	41 67	5,824,299	693,351	34 72	24,079,491
Cows.....	112,482	53 75	6,045,907	655,397	51 18	33,962,485
Sheep.....	183,303	5 97	1,123,727	3,230,440	4 90	15,837,222
Hogs.....	52,356	20 12	1,053,664	892,032	11 94	10,658,259
Total.....			17,200,930			123,847,743
NEW YORK.				MARYLAND.		
Horses.....	408,763	\$92 41	\$37,774,098	83,334	\$85 90	\$7,358,599
Mules.....	2,078	100 43	218,795	10,558	102 65	1,083,852
Cattle and oxen..	726,412	38 53	28,995,667	115,623	25 43	2,900,022
Cows.....	1,237,631	55 14	68,242,973	94,845	41 20	3,907,614
Sheep.....	5,117,148	5 00	25,688,083	262,576	5 83	1,531,693
Hogs.....	671,984	14 33	9,632,890	368,396	9 17	3,380,033
Total.....			170,552,506			20,161,813

TABLE No. 4—Continued.

Live stock.	Number in February, 1866.	Average price.	Total value.	Number in February, 1866.	Average price.	Total value.
DELAWARE.				ILLINOIS.		
Horses	15,523	\$80 10	\$1,244,500	574,205	\$79 61	\$45,715,740
Mules	2,280	92 28	210,400	50,899	98 00	5,033,951
Cattle and oxen..	30,143	39 72	1,198,555	922,874	21 64	19,964,055
Cows	19,215	75 00	1,441,125	523,761	34 84	18,247,833
Sheep	17,500	4 25	74,374	2,446,081	3 77	9,240,417
Hogs	32,098	9 37	300,915	1,976,208	8 73	17,257,236
Total			4,469,869			115,459,232
KENTUCKY.				MISSOURI.		
Horses	209,136	\$76 97	\$16,099,176	235,375	\$74 11	\$17,453,777
Mules	59,752	101 98	6,073,718	52,127	95 76	4,982,345
Cattle and oxen..	391,764	35 38	13,789,986	447,456	22 61	10,119,166
Cows	155,112	50 00	7,755,600	251,088	32 87	8,253,261
Sheep	854,068	3 97	3,394,920	830,999	2 87	2,391,200
Hogs	1,794,556	7 37	13,234,850	988,857	5 88	5,816,950
Total			60,348,250			49,016,699
OHIO.				WISCONSIN.		
Horses	520,498	\$74 37	\$38,710,308	174,608	\$100 38	\$17,527,344
Mules	7,539	89 33	675,251	1,956	113 00	221,211
Cattle and oxen..	711,531	31 76	22,598,264	375,802	28 12	10,588,108
Cows	664,065	47 33	31,432,410	284,286	35 33	10,044,872
Sheep	6,568,052	4 58	30,103,572	1,260,900	4 71	5,945,143
Hogs	1,838,481	9 62	17,695,377	357,668	9 25	3,308,429
Total			141,215,182			47,635,107
MICHIGAN.				IOWA.		
Horses	171,956	\$88 22	\$15,169,612	342,136	\$85 82	\$29,365,545
Mules	699	106 69	74,574	14,036	110 65	1,553,107
Cattle and oxen..	296,111	31 56	9,347,791	570,693	23 15	13,215,097
Cows	219,784	43 52	9,564,100	313,739	30 12	9,451,387
Sheep	3,473,075	4 26	14,795,200	1,950,752	3 78	7,378,719
Hogs	351,017	8 66	3,139,845	1,423,568	7 71	10,982,827
Total			52,091,122			71,946,682
INDIANA.				MINNESOTA.		
Horses	377,215	\$73 80	\$27,839,973	39,500	\$105 33	\$4,160,565
Mules	21,878	91 00	1,991,071	789	117 00	93,342
Cattle and oxen..	502,844	25 00	12,691,659	135,653	27 60	3,744,542
Cows	422,883	50 33	21,285,111	86,644	34 92	3,025,608
Sheep	2,783,367	3 30	9,393,864	90,496	4 22	382,119
Hogs	2,261,780	6 83	15,455,393	127,701	9 91	1,265,031
Total			88,657,071			12,671,207

TABLE No. 4—Continued.

Live stock.	Number in February, 1866.	Average price.	Total value.	Number in February, 1866.	Average price.	Total value.
	KANSAS.			NEBRASKA TERRITORY.		
Horses.....	32,469	\$77 28	\$2,509,383	11,359	\$97 00	\$1,022,687
Mules.....	2,490	92 31	229,854	1,243	128 56	147,375
Cattle and oxen..	130,307	25 00	3,256,499	64,326	26 22	1,687,174
Cows.....	71,996	27 94	2,013,568	20,925	34 86	637,166
Sheep.....	82,662	3 80	314,253	15,766	3 67	57,907
Hogs.....	95,429	8 42	803,749	35,280	8 20	288,855
Total.....			9,127,306			3,841,164

TABLE No. 5.

Showing the total numbers of live stock for 1860, 1864, 1865, and 1866; the general average prices for 1865 and 1866, and the total value for the same years.

	1860.	1864, (Jan.)	1865, (Jan.)	1866, (Feb.)
	Numbers.	Numbers.	Numbers.	Numbers.
Horses.....	4,200,141	4,049,142	3,740,933	3,899,019
Mules.....	301,605	280,847	247,553	250,151
Cattle and oxen.....	7,941,145	7,965,439	7,072,591	6,895,324
Cows.....	5,726,964	6,066,748	5,768,130	5,779,644
Sheep.....	15,478,716	24,346,391	28,647,269	32,695,797
Hogs.....	16,533,082	16,148,712	13,070,887	13,616,876
Total.....	50,181,657	58,857,279	58,547,363	63,136,811

	Aver. price for all the States in Jan. 1865.	Aver. price for all the States in Feb. 1866.	Total value in January, 1865.	Total value in February, 1866.
Horses.....	\$80 84	\$83 84	\$302,425,499	\$326,885,813
Mules.....	102 08	100 09	25,041,488	25,039,839
Cattle and oxen.....	26 17	35 57	185,090,087	210,778,136
Cows.....	36 70	47 25	211,718,270	273,081,701
Sheep.....	5 40	4 50	154,807,466	146,425,697
Hogs.....	8 55	8 86	111,796,318	120,673,158
Total.....			990,879,128	1,102,884,344

TABLE No. 6,

Showing the total value of the live stock in each State for the years 1865 and 1866.

States.	1865, (January.)	1866, (February.)
Maine.....	\$21,539,128	\$23,721,811
New Hampshire.....	13,560,612	13,862,622
Vermont.....	24,905,952	27,473,732
Massachusetts.....	17,633,783	18,263,194
Rhode Island.....	2,675,029	3,375,917
Connecticut.....	13,844,574	17,200,930
New York.....	148,536,690	170,552,506
New Jersey.....	22,415,429	27,055,185
Pennsylvania.....	105,862,161	123,847,743
Maryland.....	19,139,655	20,161,813
Delaware.....	3,545,607	4,469,869
Kentucky.....	56,729,634	60,348,250
Ohio.....	126,979,891	141,215,182
Michigan.....	47,311,803	52,091,122
Indiana.....	82,543,704	88,657,071
Illinois.....	116,588,288	115,459,232
Missouri.....	44,431,766	49,016,699
Wisconsin.....	36,911,165	47,635,107
Iowa.....	66,572,496	71,946,682
Minnesota.....	8,860,015	12,671,207
Kansas.....	7,324,659	9,127,306
Nebraska Territory.....	3,216,312	3,841,164
Total value.....	990,879,128	1,102,884,344

Comments.—In the February report we placed the *decrease* of the value of the farm crops of 1865, compared with the value of those of 1864, at \$457,183,523. From the preceding tables it will be seen that the value of live stock has increased \$112,005,216. The increase in the amount of the cereal crops was large in 1865; the increase in the numbers of live stock is small, except in sheep. The stock in January, 1865, besides sheep, numbered 29,900,094, and the same stock in February, 1866, were 30,441,014. The increase in sheep was 4,048,528.

The average prices of live stock have increased generally, except mules, which show a decrease of two dollars only, and sheep, which have decreased ninety cents per head in value. Cows show the largest advance, being \$10 55 per head. Cattle and oxen nearly as much—\$9 40.

The decrease in the price of sheep indicates that their multiplication has received the attention they merit, but that the others have not.

In presenting these facts we cannot resist the temptation to go back a couple of years, to the March and April report of 1864, and see what counsel we gave our farmers at that time.

Of horses we said: "The future market for horses is encouraging. A correspondent in Ohio informs us that farmers in his county were quitting horses and cattle and directing their attention to mules and sheep. Now an evil in our agriculture is, that we are governed too much by present demand, and continue in the course it directs too long, until an overstock is the result. * * *

With the return of peace will soon come a demand for horses from the south, which for some time will continue to grow stronger as its means of purchase increase. In these things the farmer should *now* see every encouragement to continue his production of this stock."

Of mules we then remarked: "Much of what has been said of the future

markets for horses is applicable to those for this stock; and hence the farmer who adheres to mule-raising will not regret his determination."

After showing statistics which pointed to a favorable future market for cattle, we said: "All these statistics admonish our farmers not to neglect cattle-raising."

As to cows, after exhibiting like statistics, we added: "Surely in all these statistics our farmers must see that too much attention cannot be given to an increase of cows, and to butter and cheese manufacture."

Of hogs we pursued a like course, deducing from the statistics given this inference: "With the return of our usual corn crops, therefore, our farmers need not hesitate in giving more than usual attention to hog-raising."

Although in the same article we said, as to the increase of sheep, that no change in our agriculture was so gratifying as this increase, yet because we then warned the farmer not to neglect horses, mules, cattle and cows, we were denounced as hostile to sheep culture, because we could not overlook the future importance of sustaining the numbers of these other live stock.

Now, whilst laying the foregoing tables of the numbers and values of the live stock before the public, we are amply rewarded in the facts which they present for these short-sighted criticisms. This department holds a position from which it can view the entire agriculture of the Union, great and diversified as it is, and foresee the future; and foreseeing it, it is its duty to timely counsel every farmer. Two years ago it discharged this duty, with what correctness these tables now answer.

Table No. 5 shows that there has been an increase from 1860 to 1866 (Feb.) of 12,955,154 only. Sheep alone in these years have increased 17,162,715. There has, therefore, been a decrease in other stock; a decrease, indeed, in all others, except a slight increase in the number of cows. The causes for this are obvious enough—the civil war, and the loss of the corn crop of 1863. The first rapidly consumed horses, mules and beef cattle; the last cut short the hog crop. The wants of the country for clothing material gave a great impetus to wool-growing.

To determine fully the effects of these causes we must not only regard the loss and gain as the comparison between 1860 and 1866 shows, but what the general increase in all probability would have been, if the civil war had not existed. In order to show this probable increase the following table is compiled:

Table of live stock in 1850 and 1860.

	1850.	1860.	Increase in ten years.	Decrease in ten years.
Horses	2,885,654	4,200,141	1,314,487	.....
Mules	143,406	301,609	158,203	.....
Cattle and oxen	10,152,666	{ 7,541,145	3,115,453	.....
Cows		{ 5,726,964		.....
Sheep	16,759,894	15,478,716	.....	1,281,178
Hogs	14,537,722	16,533,082	1,995,360	.....

If this increase and decrease had continued from 1860 to 1866—and we see no reason why it should not, except as to hogs, but for the war—then by assuming the one-half of this increase and decrease, hogs excepted, as exhibiting that which peace would have given, the following table will show what the comparison would have been between 1860 and 1866:

	1860.	Peace—1866.	War—1866.
Horses	4,200,171	4,857,415	3,899,019
Mules	301,669	380,771	250,151
Cattle and oxen	7,541,145	14,825,836	12,674,968
Cows	5,726,964		
Sheep	15,478,716	14,838,127	32,695,797
Hogs	16,533,082	16,533,082	13,616,876
Total	50,181,657	51,435,231	63,136,811

Whilst the number of animals is now much greater in consequence of the war, yet peace would have seen the more valuable, per head, largely in advance of what they now are, as seen in the middle column. We have given no increase to hogs, supposing that the loss of the corn crop in 1863 would have prevented any. The above table is not to be regarded as merely speculative; it shows that the tendency of peace will be to bring back the numbers of stock to what they would have been but for the war. That is, that sheep will begin to decrease unless their increase is maintained by such legislation as will guard the wool-grower against those foreign antagonisms which so depressed this important interest in former years.

EXPORTS AND PRICES OF FARM PRODUCE.

Exports from New York of the leading agricultural products from January 1, 1866, to May 1, compared with those for the same time in 1865, and their prices in New York.

Articles.	1866.	1865.	Prices in New York May 1.	Prices in Chicago.
Flour, wheat.....bbls.	344,490	407,973	\$7 10 to \$12 30	\$0 16 to \$9 00
Rye flour.....bbls.	1,074	1,160	5 00 to 5 75	5 75 to 6 00
Corn meal.....bbls.	43,523	48,574	at 4 40	.....
Wheat.....bush.	109,467	199,241	1 75 to 2 45	1 64 to 1 07
Rye.....bush.	171,823	141	at 78	64½ to 54½
Barley .....	.....	.....	.....	1 05 to 60
Oats.....bush.	676,620	24,473	43 to 62	30½ to 25½
Peas.....bush.	26,614	16,104	.....	.....
Corn.....bush.	2,077,156	149,127	81 to 86	49½ to 48
Cotton.....bales.	235,852	16,490	.....	.....
Hay.....bales.	17,646	6,228	60 to 85	13 50 to 8 00
Hops.....bales.	382	11,672	20 to 65	60 to 75
Leaf tobacco.....hhds.	13,420	26,534	3½ to 17	.....
Leaf tobacco.....pkgs.	21,905	27,101	do	.....
Manufact'd tobacco..lbs.	962,543	1,817,366	.....	65 to 1 50
Petroleum.....galls.	9,035,296	2,630,029	42	.....
Pork.....bbls.	39,536	45,652	26 00 to 27 62½	26 00 to 30 00
Beef.....bbls.	12,015	15,415	12 00 to 24 00	16 00 to 20 00
Beef.....tierces.	21,379	27,944	.....	.....
Cut meats.....lbs.	21,636,355	21,504,341	11 to 17½	11 to 22
Butter.....lbs.	743,055	6,843,827	28 to 50	20 to 31
Cheese.....lbs.	2,989,191	9,641,861	15 to 21	20 to 23½
Lard.....lbs.	12,087,482	13,275,105	17½ to 20½	16½ to 20½
Tallow.....lbs.	5,163,116	9,727,969	11½ to 13	10½ to 11½
Wool, fleece.....	.....	.....	35 to 60	38 to 40

PRICES IN NEW YORK.

We are indebted to the *Journal of Commerce* of New York for the following table. It is a suitable accompaniment to our tables of the prices of farm products and of live stock :

Comparative prices in the New York market on the first of May, in the years 1855 to 1866, inclusive.

	1855.	1856.	1857.	1858.	1859.	1860.	1861.	1862.	1863.	1864.	1865.	1866.
Breadstuffs: Wheat flour, State.....barrel.	\$9 81½	\$5 50	\$6 00	\$4 25	\$5 50	\$5 50	\$5 20	\$5 00	\$6 00	\$7 10	\$6 90	\$7 10
Rye flour, fine.....do.....	6 75	3 25	3 50	3 40	3 75	3 50	3 10	3 25	4 00	6 00	6 10	4 90
Corn meal, Jersey.....do.....	5 25	3 12½	3 25	3 50	3 90	3 80	3 10	2 75	4 15	6 00	5 75	3 85
Wheat, prime white...bushel.	2 80	1 80	1 85	1 35	1 70	1 65	1 65	1 42	1 80	1 88	1 85	2 55
Rye.....do.....	1 50	78	90	66	84	84	68	80	1 03	1 53	1 03	78
Oats, State.....do.....	81	40	58	46	54	43	36	40	85	72	86	61
Corn, yellow.....do.....	1 13	62	80	73	86	82	67	58	94	1 38	1 48	86
Candles: Mould.....pound.	14½	14	14	10½	20½	17	17	17	24	26	20½	20½
Coal: Anthracite.....ton.	6 00	5 50	4 25	39	40	38	32	28	38	35	40	40
Coffee: Brazil.....pound.	104	11½	11	10½	12	13½	13	4 75	7 25	8 50	10 00	8 50
Java.....do.....	14	14½	15½	18	15	15½	17	19½	32	47½	*20	*20
Cotton: Middle Upland.....do.	9½	10½	14½	12½	12	11½	13½	28	66½	83	42	*25½
Fish: Dry cod.....quintal.	3 85½	4 00	3 75	3 37½	4 00	4 37½	3 75	3 62½	6 12½	7 00	8 25	4 50
Mackerel, No. 1 Mass.....reg.	20 00	20 75	21 00	13 75	16 25	17 25	14 50	15 50	19 00	18 00	16 00	18 50
Fruit: R. M. raisins.....box.	2 42	3 25	4 75	2 50	2 20	2 35	1 55	3 12½	4 12½	4 50	4 75	3 70
Dried apples.....pound.	6½	9	10½	6	8½	9	3½	6	64	10½	10	15½
Hay.....cwt.	1 12½	80	75	45	75	95	80	65	80	1 60	90	60
Hops.....pound.	19	9	10	8	13	10	16	15	20	28	35	65
Indigo, Manila.....do.	85	75	75	75	75	75	60	1 00	1 12½	1 30	1 35	1 35
Iron: Scotch pig.....ton.	27 50	32 00	36 00	25 50	25 00	24 00	21 00	24 00	38 00	60 00	50 00	44 00
Common English bar.....do.	56 00	62 00	60 00	47 00	47 00	40 00	44 00	53 00	75 00	125 00	125 00	94 00
Laths.....M.	2 00	1 37½	1 37½	1 18½	1 45	1 75	1 20	1 15	1 45	1 75	2 75	4 00
Leather: Hemlock sole.....pound.	2 22	26	29	25	26	21	19	21½	27½	35	32	30½
Lime, com. Rockland.....barrel.	1 00	1 00	90	70	70	70	80	68	1 00	1 40	1 60	1 50
Liquors: Cognac brandy.....gallon.	4 70	5 00	5 50	4 25	4 00	3 00	3 20	4 25	5 75	9 00	20 00	*5 50
Domestic whiskey.....do.	37	28½	29	21	25	25½	18	23½	45½	1 25	2 10	2 26
Molasses: New Orleans.....do.	28	47	75	35	39	49	32	45	50	1 00	1 05	1 10
Muscovado.....do.	26	36	62	30	31	30	32	28	46	95	45	65
Cardenas.....do.	23	30	54	24	25	27	17	21	33	75	40	.....
Naval stores: Spirits turpentine.....do.	44	40	48	49½	53	47	80	1 45	3 37½	3 25	3 00	87½
Rosin, com.....barrel.	1 70	1 67½	1 90	1 52½	1 70	1 57½	1 85	8 00	26 00	37 00	19 00	3 25
Oils: Whale, crude.....gallon.	66	75	73	56	50	42	40	47½	92	1 14	1 25	1 00
Whale, manufactured.....do.	75	86	83	68	60	55	57	60	1 00	1 23½	1 50	1 20
Sperm, crude.....do.	1 79	1 80	1 45	1 22	1 40	1 30	1 37	1 36	1 68	1 70	2 00	2 35
Sperm, manufactured.....do.	2 05	2 05	1 55	1 35	1 45	1 45	1 60	1 52	2 00	1 85	2 30	2 45

Comparative prices in the New York market, &c.—Continued.

	1855.	1856.	1857.	1858.	1859.	1860.	1861.	1862.	1863.	1864.	1865.	1866.
Oils: Linseed.....gallon.	\$0 84 $\frac{1}{2}$	\$0 75	\$0 80	\$0 68	\$0 63	\$0 60	\$0 58	\$0 82	\$1 50	\$1 65 $\frac{1}{2}$	\$1 25	\$1 45
Provisions: Pork, mess.....barrel.	17 37 $\frac{1}{2}$	19 00	23 00	18 75	16 35	17 75	17 87	12 63 $\frac{1}{2}$	15 00	26 50	26 00	26 00
Beef, prime.....do.	14 37 $\frac{1}{2}$	15 50	18 90	15 35	12 75	14 25	13 25	10 00	13 00	23 87 $\frac{1}{2}$	25 00	24 00
Beef, mess, country.....do.	11 00	8 50	13 50	11 50	8 25	5 25	6 00	6 00	6 00	13 00	14 00	20 00
Beef, prime.....do.	8 50	8 00	11 25	8 50	6 50	4 25	4 25	4 50	4 50	7 00	.....	.....
Pickled hams.....do.	9 $\frac{1}{2}$	9 $\frac{1}{2}$	11	10	9 $\frac{1}{2}$	9 $\frac{1}{2}$	8 $\frac{1}{2}$	5 $\frac{1}{2}$	7 $\frac{1}{2}$	15 $\frac{1}{2}$	18	17 $\frac{1}{2}$
Pickled shoulders.....do.	7 $\frac{1}{2}$	7 $\frac{1}{2}$	9	7 $\frac{1}{2}$	6 $\frac{1}{2}$	7 $\frac{1}{2}$	6 $\frac{1}{2}$	5 $\frac{1}{2}$	7 $\frac{1}{2}$	11 $\frac{1}{2}$	15	12
Lard.....do.	10 $\frac{1}{2}$	10	14 $\frac{1}{2}$	11 $\frac{1}{2}$	11 $\frac{1}{2}$	11 $\frac{1}{2}$	9 $\frac{1}{2}$	8 $\frac{1}{2}$	10 $\frac{1}{2}$	14 $\frac{1}{2}$	18	20
Butter, State.....do.	26	20	27	25	22 $\frac{1}{2}$	18	16	18	19	31	35	50
Cheese.....do.	11	10	13	8 $\frac{1}{2}$	10	10	7	8 $\frac{1}{2}$	12	17 $\frac{1}{2}$	20	20
Rice.....cwt.	6 00	4 25	5 00	4 25	4 00	4 12 $\frac{1}{2}$	5 75	6 $\frac{1}{2}$	8	10 25	10 50	9 $\frac{1}{2}$
Salt, Liverpool fine.....sack.	1 45	1 78	1 45	1 37 $\frac{1}{2}$	1 50	1 70	1 60	1 65	2 50	2 20	2 50	2 75
Seeds: Clover.....do.	10 $\frac{1}{2}$	12	11	7 $\frac{1}{2}$	8 $\frac{1}{2}$	8 $\frac{1}{2}$	8	7 $\frac{1}{2}$	8 $\frac{1}{2}$	12 $\frac{1}{2}$	30	12
Timothy.....do.	28 00	24 50	24 50	18 25	15 00	16 00	18 75	11 00	14 00	20 00	.....	6 75
Soap: New York.....do.	6	6	6	5	5 $\frac{1}{2}$	6	5 $\frac{1}{2}$	5 $\frac{1}{2}$	8 $\frac{1}{2}$	.....	.....	.....
Castile.....do.	10 $\frac{1}{2}$	10 $\frac{1}{2}$	11 $\frac{1}{2}$	12 $\frac{1}{2}$	9 $\frac{1}{2}$	10	10	13 $\frac{1}{2}$	17	21	16 $\frac{1}{2}$	.....
Spices: Pepper.....do.	10 $\frac{1}{2}$	10 $\frac{1}{2}$	12 $\frac{1}{2}$	9 $\frac{1}{2}$	9 $\frac{1}{2}$	8 $\frac{1}{2}$	8	16 $\frac{1}{2}$	27	43	32	23
Nutmegs.....do.	1 00	92 $\frac{1}{2}$	85	57 $\frac{1}{2}$	47 $\frac{1}{2}$	44	40	65	82 $\frac{1}{2}$	1 47 $\frac{1}{2}$	1 20	*92
Sugars: New Orleans.....do.	5 $\frac{1}{2}$	7 $\frac{1}{2}$	12 $\frac{1}{2}$	6 $\frac{1}{2}$	6 $\frac{1}{2}$	7	5 $\frac{1}{2}$	7 $\frac{1}{2}$	10 $\frac{1}{2}$	20	.....	.....
Cuba.....do.	5 $\frac{1}{2}$	7	10 $\frac{1}{2}$	5 $\frac{1}{2}$	6 $\frac{1}{2}$	6 $\frac{1}{2}$	4 $\frac{1}{2}$	7	10 $\frac{1}{2}$	20	.....	.....
Refined white.....do.	8 $\frac{1}{2}$	10 $\frac{1}{2}$	14	9 $\frac{1}{2}$	9 $\frac{1}{2}$	10 $\frac{1}{2}$	7 $\frac{1}{2}$	10	13	25	19 $\frac{1}{2}$	15
Tallow.....do.	11 $\frac{1}{2}$	10 $\frac{1}{2}$	11 $\frac{1}{2}$	10 $\frac{1}{2}$	10 $\frac{1}{2}$	10 $\frac{1}{2}$	9	8 $\frac{1}{2}$	11 $\frac{1}{2}$	14 $\frac{1}{2}$	11 $\frac{1}{2}$	11 $\frac{1}{2}$
Teas: Young Hyson.....do.	43	35	45	35	39	40	50	70	1 00	1 45	1 25	1 30
Souchong.....do.	30	30	40	30	38	38	35	50	70	1 00	90	90
Oolong.....do.	40	40	50	37	43	35	35	73	80	1 20	1 00	1 00
Tobacco: Kentucky.....do.	10	12 $\frac{1}{2}$	16	12	11	10	9	13 $\frac{1}{2}$	20	30	25	20
Manufactured.....do.	24	28	32	24	20	20	17	30	65	65	70	75
Whalebone: Polar.....do.	44	62	90	1 00	90	90	75	75	1 85	1 60	1 45	1 30
Wine: Port.....gallon.	2 75	2 50	2 75	2 50	2 50	2 50	3 50	2 75	8 25	6 00	8 00	6 00
Madeira.....do.	2 75	2 50	3 00	3 00	3 00	2 00	4 00	5 00	5 00	5 00	12 00	8 00
Wool: Common.....do.	30	32	39	25	40	35	32	42	70	70	65	65
Three-fourths blood.....do.	37	45	50 $\frac{1}{2}$	34	50	48	40	45	75	75	67	50
Merino.....do.	45	48	56	37	56	55	47	49	78	77	70	62
Pulled, No. 1.....do.	24	34	37	22	33	.....	23	31	60	60	64	45

* Gold.

We also annex a monthly table of the fluctuations in gold for the previous four years, commencing with January, 1862, the date of the suspension of specie payments :

Date.	1862.		1863.		1864.		1865.	
	Lowest.	Highest.	Lowest.	Highest.	Lowest.	Highest.	Lowest.	Highest.
January	Par to	105	134	160 $\frac{3}{4}$	151 $\frac{1}{2}$	160	197 $\frac{1}{2}$	234 $\frac{1}{2}$
February	102 $\frac{1}{2}$	104 $\frac{3}{4}$	153	172 $\frac{1}{2}$	157 $\frac{1}{2}$	161	196 $\frac{3}{4}$	216 $\frac{3}{4}$
March	101 $\frac{1}{2}$	102 $\frac{1}{2}$	139	171 $\frac{3}{4}$	159	169 $\frac{3}{4}$	148 $\frac{1}{2}$	201
April	101 $\frac{1}{2}$	102 $\frac{1}{4}$	146	159	166 $\frac{1}{4}$	187	144	160
May	102 $\frac{1}{2}$	104 $\frac{1}{2}$	143 $\frac{1}{2}$	155	168	190	128 $\frac{5}{8}$	145 $\frac{1}{4}$
June	103 $\frac{1}{2}$	109 $\frac{1}{2}$	140 $\frac{1}{2}$	148 $\frac{7}{8}$	189	251	135 $\frac{3}{4}$	147 $\frac{5}{8}$
July	109	120 $\frac{1}{8}$	123 $\frac{1}{4}$	145	222	285	138	146 $\frac{1}{2}$
August	112 $\frac{1}{2}$	116 $\frac{1}{4}$	122 $\frac{1}{2}$	129 $\frac{3}{4}$	231 $\frac{1}{2}$	262	148 $\frac{1}{2}$	145 $\frac{3}{4}$
September	116 $\frac{1}{2}$	124	127	143 $\frac{1}{4}$	185	255	142 $\frac{5}{8}$	145
October	122	137	140 $\frac{3}{8}$	156 $\frac{3}{4}$	189	229	144	149
November	129	133 $\frac{1}{4}$	143	154	209	260	145 $\frac{1}{2}$	148 $\frac{3}{4}$
December	130	134	147	152 $\frac{3}{4}$	211	244	144 $\frac{1}{2}$	146 $\frac{3}{4}$

ENGLISH CROPS AND PRICES.

The *Mark Lane Express* of April 9 thus speaks of the growing wheat-crop in England and Europe, and of English and European markets :

"With a prevalence of rain during the past week the labor of the fields has been much impeded, and sowing in the late districts still further delayed; but with a mild temperature, upon the early sowings there has been rapid vegetation, and the young wheat has been making satisfactory progress. No disasters seem yet to have fallen upon the growing crops in Europe, but the same delays have occurred. With so much damp, it was impossible that much improvement in the condition of English samples should appear, and we have consequently had a continuance of dull markets, with some occasional decline on inferior qualities; but there has scarcely been any quotable change in what has been really fine and dry.

* * * The prices in most parts of Germany leave no margin for export, for the simple reason that the crops there have been bad. Some districts in southern Russia have failed, and so kept Odessa firm. The Danubian principalities have failed more signally; and it is only France—generally a consuming country—that has any surplus, and that from a former crop. We have pointed to America till we are tired of crying "wolf," but the established difference between fine flour and wheat and inferior sorts at New York shows plainly what we may expect thence; and now that shipments of French flour for the United States, via Liverpool, have commenced, it ceases to become incredible that both France and England may yet be exporting countries."

The wheat crops of France, alluded to in the above extract, were as follows :

Acres sown :

1863	17, 114, 164
1864	16, 917, 130

Yield, bushels :

1863	331, 660, 394
1864	316, 018, 111

Yield per acre, bushels :

1863	19 $\frac{1}{2}$
1864	18 $\frac{3}{4}$

These are large wheat crops, and the yield per acre excellent for that country : not excelled except by Great Britain with its favorable climate and high farming, and by Minnesota, producing, as was claimed against the returns of this department, 48 bushels per acre !!!

The trade of France in wheat for a series of years, however, shows the uncertainty of its crops. The following table exhibits the wheat and wheat flour imports by, and the exports of, that nation.

	Imports, pounds.	Exports, pounds.
1861.....	1, 310, 594, 768	166, 547, 360
1862.....	675, 863, 440	238, 644, 896
1863.....	427, 826, 448	293, 880, 608
1864.....	300, 149, 920	376, 766, 992
1865.....	241, 423, 056	744, 995, 280
	<hr/> 2, 955, 857, 632	<hr/> 1, 820, 835, 136

In this series of years it will be seen that, however excellent the wheat crops of France in 1863 and 1864, its importations of wheat and wheat flour exceeded its exportations by 1,135,022,496 pounds during the five years above.

The average price of wheat in the English markets is about \$1 34 per bushel. A reference to the prices in the preceding table shows that wheat is now selling in New York at \$2 55. Such a difference, being \$1 21, between English and American rates, discloses the fact that we cannot export wheat at this time, and accounts for the statement made by the *Mark Lane Express*, "that shipments of French flour for the United States, via Liverpool, have commenced."

These high prices of American wheat lead us to notice the criticisms made upon the return of this department of the last wheat crop. We placed the deficit in quality and quantity at 26,241,698 bushels in our August report, and in the report for October stated that the deficit in quality was greater than in quantity, and that the entire deficit was still greater than as reported in August. In Kentucky, Indiana, Illinois, Ohio, Maryland, and Delaware the average quality was so low as to make certain that large portions of the wheats of these States would be unfit for flour. The *Chicago Journal of Commerce* of April 18 says : "The current receipts of grain at Chicago are very large, but an important amount of the wheat is going to Ohio and Indiana, where the crop is proving to be inadequate."

Yet, because we made a report of *facts*, now fully verified, persons without any knowledge of them condemned the report as untrue, as exaggerated, as striking at the financial prosperity of the government, and like criticisms. In this as in all other cases we have always been content to abide the decision of time, and in this case, as in all others, that decision has sustained the estimates by the department.

METEOROLOGY.

MARCH, 1866.

Table showing the highest and lowest range of the thermometer, (with dates prefixed,) the mean temperature, and amount of rain, (in inches and tenths,) for March, 1866, at the following places, as given by the observers named. The daily observations were made at 7 o'clock a. m. and 2 and 9 p. m.

Place.	County.	Observer's name.	Date.	Max.	Date.	Min.	Mean.	Rain.
MAINE.								
				°		°	°	<i>In.</i>
Steuben	Washington	J. D. Parker	15	44	11	7	28.6	6.33
Lee	Penobscot	Edwin Pitman	28	45	18	2	29.1	7.52
West Waterville....	Kennebec	B. F. Wilbur	28	47	18	8	28.1	5.50
Gardiner	do	R. H. Gardiner	15, 16, 17, 28	43	8, 18	10	28.4	5.47
Lisbon	Androscoggin....	Asa P. Moore						5.20
Webster	do	Almon Robinson....	15	47	11, 18	8	27.7	.....
Standish	Cumberland	John P. Moulton....	15, 31	48	8, 18	8	28.9	3.43
Cornish	York	Silas West	15	58	18	4	27.3	5.30
Cornishville	do	G. W. Guptill	15	59	18	5	27.5	4.58
NEW HAMPSHIRE.								
Stratford	Coos	Branch Brown	15, 16	43	18, 20	-2	23.5	3.29
Shelburne	do	F. Odell	15	54	20	3	24.9	1.04
North Barnstead....	Belknap	C. H. Pitman	15	62	8	10	30.0	3.25
Concord	Merrimac	John T. Wheeler ...	15	62	8	10	31.8	.....
Claremont	Sullivan	S. O. Mead	15	50	18	6	26.9	.....
Do	do	Arthur Chase	15	57	18	6	30.0	3.07
VERMONT.								
Lunenburg	Essex	H. A. Cutting	15, 24	48	18	0	27.5	1.40
Craftsbury	Orleans	Jas. A. Paddock ...	3	42	18	0	22.6	2.33
Randolph	Orange	Charles S. Paine....	15	48	18	5	27.4	0.58
Middlebury	Addison	H. A. Sheldon	14	47	18	4	27.7	1.82
Brandon	Rutland	Harmon Buckland..	3	52	18	10	29.2	1.65
MASSACHUSETTS.								
Topsfield	Essex	S. A. Merriam	15	70	8, 11, 18	20	36.2	3.81
Georgetown	do	Henry M. Nelson....	15	72	18	10	31.5	.....
Newbury	do	Jno. H. Caldwell....	15	70	8, 18	10	32.4	.....
North Billerica....	Middlesex	Rev. E. Nason	15	72	11	8	33.6	.....
New Bedford	Bristol	Samuel Rodman....	13	59	5	11	33.0	3.55
Worcester	Worcester	Joseph Draper, M.D.	13	67	18	10	32.3	3.18
Mendon	do	Jno. G. Metcalf, M.D.	15	67	18	12	31.2	2.70

Table showing the range of the thermometer, &c., for March—Continued.

Place.	County.	Observer's name.	Date.	Max.	Date.	Min.	Mean.	Rain.
MASSACHUSETTS—Continued.								
Amherst	Hampshire	Prof. E. S. Snell....	15	56	18	12	31.6	3.16
Springfield	Hampden	J. Weatherhead....	13	64	18	10	25.8	2.93
Westfield	do	Rev. E. Davis.....	15	60	18	13	32.0	3.09
Richmond	Berkshire	Wm. Bacon	15	58	18	8	29.2	4.36
Williams College	do	Prof. A. Hopkins...	15	62	18	8	29.4	1.24
RHODE ISLAND.								
Newport	Newport	Wm. H. Crandall...	15	53	18	14	34.3	5.11
CONNECTICUT.								
Pomfret	Windham	Rev. D. Hunt.....	13	67	18	10	30.5	3.33
Columbia	Tolland	Wm. H. Yeomans ..	13	65	18, 25, 26	16	34.3	.....
Colebrook	Litchfield	Charlotte Rockwell.	15	64	18	2	28.6	.....
Groton	New London	Rev. E. Dewhurst..	13	60	10	14	34.5	4.25
NEW YORK.								
Moriches	Suffolk	Miss N. Smith	13	64	11, 18	20	38.4	5.34
South Hartford	Washington	G. M. Ingalsbe	15	52	9	8	31.7	1.94
Albany	Albany	H. M. Paine, M. D..	15	59	18	20	37.6	1.16
Garrison's	Putnam	Thomas B. Arden....	13	59	18	13	34.4	1.98
Throg's Neck	Westchester	Miss E. Morris.....	13	60	18	14	33.5	.....
Deaf & Dumb Inst..	New York	Prof. O. W. Morris ..	13	67	25	18	38.6	2.28
Columbia College	do	H. B. Cornwall.....	13, 15	58	18, 25	18	34.8	1.70
Flatbush	Kings	Ell T. Mack	16	51	25	16	34.8	1.49
Newburgh	Orange	James H. Gardiner..	15	56	18	13	33.7	0.50
Troy	Rensselaer	John Heimstreet....	15	54	18	13	32.8	1.08
Gouverneur	St. Lawrence....	C. H. Russell	14	50	10	0	27.0	2.61
South Trenton	Oneida	Storrs Barrows	4	50	18	—	23.1	4.25
Oneida	Madison	S. Spooner, M. D..	14	64	17, 25	10	28.9	2.97
Depauville	Jefferson	Henry Haas	3	48	17, 18	8	27.2	3.20
Oswego	Oswego	Wm. S. Malcolm	2	50	18	11	30.6	2.31
Palermo	do	E. B. Bartlett	3	50	17	5	26.1	2.30
Skaneateles	Onondaga	W. M. Beauchamp ..	16	60	10	4	25.5	.....
Baldwinsville	do	John Bowman	3	51	18	9	28.1	.....
Nichols	Tioga	Robert Howell	14	68	10	9	32.3	.....
Geneva	Ontario	Rev. Dr. W. D. Wilson	2	58	17, 18	11	30.0	1.51
Rochester	Monroe	M. M. Mathews, M.D.	14	59	10, 18	13	30.5	2.71
Do	do	Prof. C. Dewey.....	14	60	10	10	29.9	2.71
Little Genesee	Allegany	Daniel Edwards	14	61	18	7	29.3	.....
Buffalo	Erie	William Ives	1, 2	63	15	7	29.3	3.17
Jamestown	Chautauque	Rev. S. W. Roe	2	68	17, 18	6	18.9	.....
NEW JERSEY.								
Paterson	Passaic	William Brooks	13	64	18	12	34.8	1.98
Newark	Essex	W. A. Whitehead ..	13	64	26	15	36.2	1.82
New Brunswick	Middlesex	Geo. H. Cook	13	67	18	17	35.9	1.68
Trenton	Mercer	E. R. Cook	15	60	26	18	40.4	2.16
Burlington	Burlington	John C. Deacon	13, 15	74	18	18	29.6	2.25
Moorestown	do	Thomas J. Beans	15	74	26	19	38.8	2.07

Table showing the range of the thermometer, &c., for March—Continued.

Place.	County.	Observer's name.	Date.	Max.	Date.	Min.	Mean.	Rain.
NEW JERSEY—Continued.								
Mount Holly	Burlington	M. J. Rhees, M. D. .	15	72	26	16	39.7	.....
Seaville	Cape May	Barker Cole	15	68	10, 24	20	38.3	2.60
Greenwich	Cumberland	R. C. Sheppard	13, 15	72	18, 26	19	40.5	0.79
PENNSYLVANIA.								
Nyce's	Pike	John Grathwohl	15	64	18	6	30.0	1.65
Fallsington	Bucks	Ebenezer Hance	13, 15	67	26	18	39.3	1.75
Philadelphia	Philadelphia	Pf. J. A. Kirkpatrick	15	71	26	19	41.2	2.03
Germantown	do	Thomas Meehan	15	75	26	14	37.7	.....
Moorland	Montgomery	Miss Anna Spencer	13, 15	70	18	18	38.0	1.15
Dyberry	Wayne	Theodore Day	13	57	18	7	28.8	.....
Nazareth	Northampton	L. E. Ricksecker	13	70	17, 26	20	37.2	.....
North Whitehall	Lehigh	Edward Kohler	13, 15	58	18	12	35.3	.....
Parkesville	Chester	F. Darlington	15	72	18, 26	17	37.8	1.55
Ephrata	Lancaster	W. H. Spera	13	80	26	14	39.0	1.43
Mountjoy	do	J. R. Hoffer	15	69	26	18	39.3	0.80
Harrisburg	Dauphin	John Heisely, M.D. .	15	62	18	21	39.2	0.72
Lewisburg	Union	C. S. James	14	66	25	14	34.7	1.47
Tioga	Tioga	E. T. Bentley	2	68	9, 17, 18, 25	10	33.2	1.55
Pennsville	Clearfield	Elisha Fenton	14	66	17, 25, 26, 27	10	31.0	4.70
Connellsville	Fayette	John Taylor	14	76	10	7	36.8	.....
New Castle	Lawrence	E. M. McConnell	14	63	10, 27	8	34.2	.....
Canonsburg	Washington	Rev. Wm. Smith, D.D.	14	66	27	6	34.7	3.24
DELAWARE.								
Delaware city	New Castle	L. J. Vanhekle	13	74	26	21	39.0	.....
MARYLAND.								
Woodlawn	Cecil	Jas. O. McCormick	14	73	18	19	41.8	1.63
Catonsville	Baltimore	Grape & Ranlett	13	74	26	17	38.0	.....
Annapolis	Anne Arundel	Wm. R. Goodman	14	67	18	17	41.2	1.16
St. Inigoes	St. Mary's	Rev. J. Stephenson	15	76	26, 27	20	44.6	1.21
Frederick	Frederick	Miss H. M. Baer	14	73	26	15	38.3	1.75
VIRGINIA.								
Wythesville	Wythe	Howard Shriver	15	72	27	17	41.6	.....
WEST VIRGINIA.								
Cabell Court House	Cabell	C. L. Roffe	20	72	17, 26	22	44.0	1.30
MISSISSIPPI.								
Natchez	Adams	Robert McCary	3, 20	78	17	40	60.6	4.10
Grenada	Yalobusha	Albert Moore .....	.....	.....	9	32	.....	.....
ARKANSAS.								
Helena	Phillips	O. F. Russell	20	78	17	30	54.9	8.75
TENNESSEE.								
Clarksville	Montgomery	Wm. M. Stewart	13, 31	71	17	24	47.3	5.08

Table showing the range of the thermometer, &c., for March—Continued.

Place.	County.	Observer's name.	Date.	Max.	Date.	Min.	Mean.	Rain.
KENTUCKY.								
Louisville	Jefferson	Mrs. L. Young	31	o 71	26	o 18	o 43.0	<i>In.</i> 8.07
(Near) Chilesburg...	Clark	S. D. Martin, M.D. ..	13, 14	70	26	18	44.2	3.17
OHIO.								
Saybrook	Ashtabula	James B. Fraser....	2	67	18, 26, 27	9	30.0	.....
New Lisbon	Columbiana	J. F. Benner	2, 14	68	27	8	36.4	4.75
East Fairfield	do	S. B. McMillan	2, 14	63	10	12	33.3	4.71
Steubenville	Jefferson	Roswell Marsh	14	68	10	9	37.7	4.56
Welshfield	Geauga	B. F. Abell, A. M. ...	2	64	18	6	30.4	5.53
Milnersville	Guernsey	Rev. D. Thompson ..	14	71	27	10	35.2	1.86
East Cleveland	Cuyahoga	Mr. & Mrs. G. A. Hyde	2	69	10, 17, 18, 27	15	33.7	4.00
Wooster	Wayne	Martin Winger	2	64	10	9	32.5	.....
Gallipolis	Gallia	A. P. Rogers	14	72	10, 26	17	42.6	2.78
Kelley's Island	Erie	Geo. C. Huntington ..	1	54	17	14	31.7	2.81
Norwalk	Huron	Rev. A. Newton	2	66	10	12	32.5	2.56
Westerville	Franklin	Pf. H. A. Thompson ..	3	68	17	15	37.8	4.25
Kingston	Ross	Prof. Jno. Haywood ..	14	68	17	16	39.4	4.95
Toledo	Lucas	J. B. Tremby, M.D. ...	2	58	26	13	31.8	3.75
Marion	Marion	H. A. True, M.D.	2	60	17	11	34.0	4.10
Urbana University ..	Champaign	Prof. M. G. Williams ..	2, 14	64	17	10	35.0	3.51
Hillsboro'	Highland	J. McD. Mathews	2	68	17	13	38.2	5.75
Ripley	Brown	G. Bambach, M.D.	14	70	17	18	44.7	6.31
Bethel	Clermont	Geo. W. Crane	2	68	26	13	37.1	7.75
Cincinnati	Hamilton	G. W. Harper	20	69	17	16	47.2	5.06
Do	do	R. C. Phillips	2	68	17, 26	24	44.3	5.22
College Hill	do	L. B. Tuckerman	2, 20	66	26	13	37.4	4.64
Do	do	John W. Hammitt	20	66	17	12	38.9	5.06
MICHIGAN.								
Monroe	Monroe	Miss F. E. Whelpley ..	2	54	17	9	31.2	3.20
State Ag. College ..	Ingham	Prof. R. C. Kedzie	1	56	10	8	28.7	3.49
Homestead	Benzie	Geo. E. Steele	2	48	26, 27	—4	22.0	.....
Holland	Ottawa	L. H. Streng	1	56	26	0	28.8	3.52
INDIANA.								
Balbec	Jay	Miss M. Griest	31	60	17	7	33.1	.....
Aurora	Dearborn	Geo. Sutton, M. D. ...	20	72	17, 26	13	41.1	4.53
Vevay	Switzerland	Chas. G. Boerner	31	75	5, 8, 17	18	42.1	5.72
Richmond	Wayne	John Valentine	2	66	17	10	34.5	4.15
Spiceland	Henry	Wm. Dawson	2	67	17	9	35.6	4.70
Madison	Jefferson	Rev. Samuel Collins ..	20	70	17	21	45.3	1.00
Columbia	Whitley	Dr. F. & Miss McCoy ..	2	66	17	10	33.2	6.55
Indianapolis	Marion	Dr. & Mrs. Butterfield ..	2	67	1	11	36.2	.....
New Harmony	Posey	Jno. Chappellsmith ..	20	74	1	20	43.0	5.52
ILLINOIS.								
Chicago	Cook	Samuel Brookes	1	52	17	4	28.2	.....
Marengo	McHenry	J. S. Rogers	1	56	17	6	28.8	2.58
Riley	do	E. Babcock	1	53	17	4	29.3	2.81
Golconda	Pope	W. V. Eldredge	31	82	17	19	43.6	5.88
Aurora	Kane	A. Spaulding	1	60	17	7	31.3	2.21
Sandwich	De Kalb	Dr. N. E. Ballou	1	70	26	—1	29.8	2.77

Table showing the range of the thermometer, &c., for March—Continued.

Place.	County.	Observer's name.	Date.	Max.	Date.	Min.	Mean.	Rain.
ILLINOIS—Cont'd.								
Ottawa.....	La Salle.....	Mrs. E. H. Merwin ..	1	64	17	10	32.5	1.97
Winnebago.....	Winnebago.....	J. W. & Miss Tolman	1	58	17	2	27.7	2.00
Wyanet.....	Bureau.....	E. S. & Miss Phelps..	1	64	17	5	33.0	1.86
Tiskilwa.....	do.....	Verry Aldrich.....	1	66	25	11	33.3	.....
Elmira.....	Stark.....	O. A. Blanchard.....	1	65	17	6	33.0	1.93
Hennepin.....	Putnam.....	Smiley Shepherd.....	1	66	17	7	33.0	.....
Peoria.....	Peoria.....	Frederick Brendel..	1	64	17	12	34.9	2.46
Springfield.....	Sangamon.....	G. M. Brinkerhoff.....	20	68	10, 24, 25	18	30.8	.....
Loami.....	do.....	Timothy Dudley.....	20	78	17	10	35.2	2.95
Dubois.....	Washington.....	Wm. C. Spencer.....	20	75	17	12	38.6	4.05
Galesburg.....	Knox.....	Pf. W. Livingston ..	1	64	17	7	30.5	1.87
Augusta.....	Hancock.....	S. B. Mead, M. D....	1	68	17	6	36.1	1.77
Manchester.....	Scott.....	Dr. J. & C. W. Grant	1	72	17	13	37.1	3.11
Clinton.....	De Witt.....	C. H. Moore.....	.....	.....	24	18	.....	.....
Mount Sterling.....	Brown.....	Rev. A. Duncan.....	20	76	17	6	36.2	.....
Andalusia.....	Rock Island.....	Dr. E. H. Bowman..	1	64	17	8	33.3	.....
WISCONSIN.								
Manitowoc.....	Manitowoc.....	Jacob Lüps.....	1, 31	49	17	— 2	25.5	1.64
Milwaukee.....	Milwaukee.....	I. A. Lapham, L.L.D	2	52	17	3	27.2	1.50
Do.....	do.....	Carl Winkler.....	1	54	17	9	29.4	1.56
Ripon.....	Fond du Lac.....	Prof. Wm. H. Ward..	1	56	17	— 1	26.8	.....
Delavan.....	Walworth.....	Levens Eddy.....	1	55	17	4	27.1	1.29
Waupacca.....	Waupacca.....	H. C. Mead.....	1	50	17	0	25.8	.....
Weyauwega.....	do.....	J. C. Hicks.....	1	54	16	4	25.9	4.50
Embarrass.....	do.....	E. Everett Breed.....	1	52	17	— 2	24.3	3.21
Rocky Run.....	Columbia.....	W. W. Curtis.....	1	49	17	3	26.3	1.20
Baraboo.....	Sauk.....	M. C. Waite.....	2	53	17	10	29.2	1.22
Beloit.....	Rock.....	H. D. Porter.....	1	54	17	4	27.7	1.00
Plymouth.....	Sheboygan.....	G. Moeller.....	1	50	17	— 1	24.3	3.40
Odanah.....	Ashland.....	Edwin Ellis.....	30	52	17	—10	18.6	.....
Bayfield.....	La Pointe.....	Andrew Tate.....	30	46	17	—10	18.7	.....
MINNESOTA.								
Afton.....	Washington.....	Dr. & Mrs. Babcock.	1	45	17, 26	— 6	20.1	.....
St. Paul.....	Ramsey.....	Rev. A. B. Paterson.	30	39	17, 26	— 8	18.8	1.32
Minneapolis.....	Hennepin.....	Wm. Cheney.....	14	43	13, 17	— 6	17.8	1.07
Forest City.....	Meeker.....	H. L. Smith.....	1	50	25	— 8	21.2	1.25
Sibley.....	Sibley.....	C. E. & C. W. Wood- bury.	30	45	26	—14	17.5	0.61
New Ulm.....	Brown.....	Charles Roos.....	30	47	13	— 8	20.8	1.40
IOWA.								
Clinton.....	Clinton.....	Dr. P. J. Farnsworth	1	62	17	2	31.3	3.75
Lyons.....	do.....	A. T. Hudson.....	1	54	17	2	29.1	2.16
Davenport.....	Scott.....	George B. Pratt.....	1	57	17	7	29.9	2.81
Dubuque.....	Dubuque.....	Asa Horr, M. D.....	1	52	17	7	29.9	1.56
Muscatine.....	Muscatine.....	J. P. Walton.....	1	62	17	6	26.7	1.97
Fort Madison.....	Lee.....	Daniel McCready.....	1	63	17, 26	7	33.0	2.42
Monticello.....	Jones.....	Chauncey Mead.....	1	50	17	0	26.7	1.32
Guttenberg.....	Clayton.....	P. Dorweiler.....	1	45	17	3	26.1	0.59
Ceres.....	do.....	J. M. Hagensick.....	1	49	17	— 5	22.3	.....

Table showing the range of the thermometer, &c., for March—Continued.

Place.	County.	Observer's name.	Date.	Max.	Date.	Min.	Mean.	Rain.
IOWA—Continued.								
Manchester.....	Delaware.....	Allen Mead.....	1	48	17	1	25.1	In. 0.97
Mount Vernon.....	Linn.....	Prof. A. Collins.....	1	60	16	5	29.3	.....
Iowa City.....	Johnson.....	Prof. T. S. Parvin..	1	60	17	4	31.3	1.35
Independence.....	Buchanan.....	Mrs. D. B. Wheaton.	1	50	17	—2	29.5	2.00
Do.....	do.....	D. S. Deering.....	1	48	17	3	27.0	.....
Waterloo.....	Black Hawk.....	T. Steed.....	30	51	17	2	27.7	.....
Iowa Falls.....	Hardin.....	N. Townsend.....	30, 31	44	17	0	23.0	1.05
Des Moines.....	Polk.....	Rev. J. A. Nash.....	1	61	17	5	30.0	3.75
MISSOURI.								
St. Louis University.	St. Louis.....	Rev. F. H. Stuntebeck	20	82	17	16	42.8	2.62
Allenton.....	do.....	A. Fendler.....	20	84	17	12	40.0	2.97
Athens.....	Clark.....	J. T. Caldwell.....	1	68	17	10	37.5	3.57
Canton.....	Lewis.....	George P. Ray.....	1	69	17	8	35.0	2.13
Harrisonville.....	Cass.....	John Christian.....	31	74	17	18	40.5	2.27
Union.....	Franklin.....	Dr. W. Moore.....	20	84	17	16	42.2	2.17
KANSAS.								
Olathe.....	Johnson.....	W. Beckwith.....	30, 31	73	16	15	35.6	.....
Atchison.....	Atchison.....	Dr. & Miss C. Horn.	30	66	17	12	34.2	.....
Council Grove.....	Morris.....	Abner Woodworth..	30	73	4, 17	19	40.2	1.50
Leavenworth.....	Leavenworth....	Dr. J. Stayman.....	30	74	17	12	36.2	1.81
NEBRASKA TER.								
Elkhorn.....	Washington.....	John S. Bowen.....	30	65	16	8	29.4	.....
Bellevue.....	Sarpy.....	Rev. Wm. Hamilton.	1	58	16	12	29.7	0.66
Glendale.....	Cass.....	Dr. A. L. and Miss Child.	30	71	15	—1	29.4	2.30
UTAH TER.								
Great Salt Lake city.	Great Salt Lake.	W. W. Phelps.....	31	66	14	25	44.1	2.73
TEXAS.								
Austin.....	Travis.....	J. Van Nostrand....	20, 24	83	5	44	63.0	3.43

Table showing the average temperature and fall of rain (in inches and tenths) for the month of March, in each year named, with the average number of places in each State in which the observations were made.

States and Territories.	Av. number of places.	Averages, 1855.		Averages, 1856.		Averages, 1857.		Averages, 1858.		Averages, 1859.		Averages, 1863.		Averages, 1864.		Averages, 1865.		Averages, 1866.	
		Mean temp.	Mean rain.	Mean temp.	Mean rain.	Mean temp.	Mean rain.	Mean temp.	Mean rain.	Mean temp.	Mean rain.	Mean temp.	Mean rain.	Mean temp.	Mean rain.	Mean temp.	Mean rain.	Mean temp.	Mean rain.
Maine	7	Deg. 27.6	In. 1.20	Deg. 28.3	In. 7.17	Deg. 28.2	In. 2.66	Deg. 32.4	In. 9.68	Deg. 33.7	In. 4.68	Deg. 31.7	In. 4.90	Deg. 33.3	In. 5.09	Deg. 38.2	In. 5.45	Deg. 38.2	In. 5.45
New Hampshire	4	30.9	6.36	25.3	2.06	29.5	1.22	32.5	6.51	23.0	3.50	30.1	2.76	35.2	4.27	27.9	2.66	35.2	4.27
Vermont	6	28.4	0.72	22.2	2.24	26.5	1.43	33.8	4.18	19.8	3.72	31.7	2.30	38.7	4.35	26.9	1.66	38.7	4.35
Massachusetts	9	32.1	1.69	31.3	2.61	32.1	1.81	38.4	5.99	27.7	5.78	33.4	3.76	38.0	5.26	31.5	3.11	38.0	5.26
Rhode Island	1	32.6	0.86	32.2	3.35	32.8	2.05	40.6	8.00	31.7	4.45	33.4	2.09	38.6	5.00	32.0	3.79	38.6	5.00
Connecticut	4	33.4	0.96	28.3	2.66	31.9	2.20	39.3	8.31	28.5	5.83	33.4	2.71	38.5	4.20	30.7	2.38	38.5	4.20
New York	21	30.5	1.53	25.7	3.10	32.3	1.18	39.3	5.00	27.7	3.45	33.4	2.71	38.5	4.20	30.7	2.38	38.5	4.20
New Jersey	6	36.8	1.83	30.6	3.12	37.4	1.40	45.8	6.40	34.1	5.25	37.5	3.88	44.4	4.82	37.1	1.92	44.4	4.82
Pennsylvania	7	34.6	2.04	35.2	1.63	37.1	0.95	44.5	5.59	34.5	5.67	35.9	4.75	42.8	5.37	39.0	1.84	42.8	5.37
Delaware	1	39.0	3.62	33.5	35.6	45.6	0.37	48.8	7.05	37.6	3.64	37.9	3.82	46.4	6.39	40.8	1.44	46.4	6.39
Maryland	1	41.6	3.75	35.4	38.4	49.1	1.03	49.6	3.80	40.5	6.04	40.3	4.43	58.2	6.97	47.3	5.08	58.2	6.97
District of Columbia	4	53.3	51.2	51.1	1.91	41.9	1.97	57.5	5.24	47.4	5.03	43.6	2.95	50.9	6.88	47.3	5.08	50.9	6.88
Tennessee	6	44.9	3.23	41.3	2.64	59.9	4.38	54.3	3.96	43.0	4.13	36.0	2.38	42.8	4.37	36.6	5.62	42.8	4.37
Kentucky	15	40.2	5.92	36.0	0.91	39.9	1.30	51.2	4.30	34.4	2.97	37.4	2.19	42.8	3.19	27.7	3.40	42.8	3.19
Ohio	7	35.4	2.80	39.8	1.21	37.4	1.36	45.9	4.07	34.4	2.97	37.4	2.19	42.8	3.19	27.7	3.40	42.8	3.19
Michigan	6	37.0	4.40	34.3	1.23	34.8	3.31	38.9	4.07	34.4	2.97	37.4	2.19	42.8	3.19	27.7	3.40	42.8	3.19
Indiana	13	34.8	2.66	31.7	1.25	42.2	2.04	47.2	4.06	35.4	3.79	36.7	2.56	43.2	5.89	38.9	4.60	43.2	5.89
Illinois	10	27.5	1.83	24.8	2.42	40.3	2.85	42.2	4.94	35.4	3.79	36.7	2.56	43.2	5.89	38.9	4.60	43.2	5.89
Wisconsin	2	25.6	1.83	24.8	1.04	34.7	1.81	35.3	4.26	30.2	2.04	31.1	1.35	31.0	3.07	25.5	2.03	31.0	3.07
Minnesota	10	21.1	1.00	33.7	1.16	30.2	1.16	30.2	3.03	28.9	0.63	27.0	1.42	24.2	1.90	19.4	1.13	24.2	1.90
Iowa	4	26.3	2.11	40.1	2.06	40.6	4.45	45.1	4.45	43.1	1.91	40.6	2.38	30.6	3.89	28.1	1.98	30.6	3.89
Missouri	10	30.9	1.45	26.3	2.11	48.2	3.53	48.4	7.32	43.2	3.17	40.8	1.67	41.9	6.84	39.7	2.62	41.9	6.84
Nebraska Territory	2	39.4	2.45	37.4	1.80	39.8	1.80	39.8	1.73	44.7	0.50	34.0	1.59	40.1	2.96	29.5	1.48	40.1	2.96
Kansas	2	37.2	2.60	48.0	37.2	48.0	2.58	46.6	2.78	44.4	2.85	40.0	1.59	40.1	2.96	29.5	1.48	40.1	2.96
California	2	56.3	4.26	57.5	56.3	54.4	3.25	51.6	2.35	53.4	2.85	52.9	0.40	52.9	0.40	52.9	1.65	52.9	0.40

NOTES OF THE WEATHER FOR MARCH, 1865.

FROM THE SMITHSONIAN INSTITUTION.

Gardiner, Maine.—Comparing the four winter months, December, January, February, and March, with those of the past thirty years, the result is as follows: The river has been frozen one hundred and thirteen days; the average for thirty years is one hundred and twenty days. There have been sixty-nine and a half days' sleighing; the average is eighty-one and three-fourths. Thermometer below zero twenty-one nights; average number, twenty-two. Mean temperature of the winter 22.09° ; mean of winter for thirty years, 22.70° ; amount of snow, seventy-five and a half inches; average, seventy-eight and a half inches.

Steuben, Maine.—March 26.—An uninterrupted snow-storm of three days has given about two feet of heavy damp snow.

Webster, Maine.—March 25 and 26.—Probably the greatest snow-storm of the season; too much drifted to be measured.

West Waterville, Maine.—More rain and snow fell during this month than in any other March since the register was begun, (ten years.)

Claremont, New Hampshire.—March 31.—Frost lingers deep in the ground, and is unusually slow in working out; until lately no water soaked in, but all ran off. The sugar season is backward, and not very promising.

Concord, New Hampshire.—March 16.—Robins and blackbirds made their first appearance; wild geese passing north.

Georgetown, Massachusetts.—March 10.—Bluebirds seen; robins were seen one week previous. 12th, birds very numerous; blackbirds in flocks, and the song of birds from every side. Spring, in appearance, fairly opened this morning. Birds are one week later than in the spring of 1865. About six inches of the ground was free from frost on the 13th; probably there were two or three inches of frozen ground below; it was solidly frozen afterwards. On the 31st, three or four inches were free of frost.

Richmond, Massachusetts.—The month has fulfilled the idea of a stormy, changeable March, and has given nearly every variety of weather that the calendar can furnish. The snow-storms from the 20th to the 26th were fully equal to any in the winter; the snow drifted much. On the 27th sleighs were out in numbers, in the fore part of the day, but it was only for a day. There are many drifts remaining on the first of April.

Mendon, Massachusetts.—March 16.—During a heavy rain at 2 p. m. two heavy claps of thunder. The first one shook many houses so that crockery rattled on the shelves. 25th, ice all gone from the ponds. 31st, frost mostly out of the ground.

New Bedford, Massachusetts.—March 2.—Bluebirds seen and heard. 16th, new grass gives a tinge of green in some localities. The following account of the opening and closing of the river Acushnet, north of the bridge, is from a record kept by Miss Charity P. Allen, of Fairhaven: Frozen over on the night of December 22, 1865; the ice broke up December 24. Frozen over again January 8, 1866; first crossing, January 10; last crossing, February 14. Frozen over again February 16; ice broke up February 20. Frozen over again March 1; broke up, finally, March 2.

Pomfret, Connecticut.—This March has been the coldest but one in sixteen years.

South Hartford, New York.—March 31.—There has been no snow during the month; mud in unusual quantities has abounded, causing the roads to be

almost impassable. There is yet much frost in the ground; in some places it extends to the depth of three and a half feet, an unusual depth in this locality.

Garrison's, New York.—March 31.—The weather through the month has been unusually severe, the mercury ranging so low as to cause the river to close again on the 9th and 10th; a heavy snow and rain squall from the southwest on the 17th, and at 7 a. m. on the 21st one loud clap of thunder from southwest. Frost is still in the ground, and the earth exhibits no signs of the return of spring. The winter grain and meadows of this vicinity will be much injured.

Theresa, New York.—March 21.—Two heavy peals of thunder between 2 and 3 a. m., the rumbling of the first one being very much prolonged.

Depauville, New York.—March 21.—Thunder-storm last night. First distant thunder in the west heard at about 2.30 a. m. At 2.45 it was overhead, when two loud peals occurred, and about two miles in a northwestern direction the lightning-rod of a barn was struck. The rod was broken in three places, and a large hole made in the frozen ground, but the building escaped uninjured. This morning the ground is covered with eight-tenths of an inch of snow. 31st.—None of the early spring birds have been seen yet in this neighborhood. The ground has been mostly bare of snow all the month, and is frozen more than two feet deep. Some uneasiness is felt for the winter grain and meadow lands. There was tolerably good sleighing on the old snow-banks up to the 14th, but since then it has given place to wheeling, which was pretty good on the hard frozen ground the rest of the month. The river St. Lawrence, at Clayton, is frozen over still; teams were crossing on the 28th, and may be yet. Good crossing on the ice in all eighty-six days.

Palermo, New York.—March 21.—The first thunder-storm of the season occurred last night. It came from the northwest with all the severity of a summer storm, notwithstanding the air previously was keen and cold. It was followed by snow-squalls, which continued through the day.

Jamestown, New York.—A heavy thunder-storm occurred in the night of the 20th, about 11 o'clock. Two claps of thunder were very loud, and the rain poured in torrents.

Albany, New York.—March 18.—The Hudson river opened.

New York, N. Y.—March 19.—Steamboats came from Albany.

Gouverneur, New York.—March 21.—Heavy thunder last night. 31st, no snow on the ground except in shaded places; frost out to the depth of about two inches.

Shanecateles, New York.—March 21.—A heavy thunder-storm occurred this morning from 2 to 3½ o'clock, (the first this season;) lightning diffuse, southward; one flash appeared to arise from the earth upward like the body of a tree, followed instantaneously by thunder.

Geneva, New York.—The month has been 2.24° colder than the average for the last fifteen years, with an unusual amount of cold west and northwest winds. There was sharp lightning and heavy thunder on the morning of the 21st, between 4 and 5 o'clock, accompanied with some rain.

Rochester, New York.—March 21.—There was a shower, with thunder and lightning, between 2 and 3 a. m. This storm reduced the barometer lower than for several months before.

Buffalo, New York.—March 21.—Lightning, thunder, and rain from 1 to 2 a. m.; mist at daylight. 22d, good skating around the light-house.

Newark, New Jersey.—The mean temperature of March was nearly one degree and three-fourths below the average of the month during the last twenty-two years.

Greenwich, New Jersey.—Crocuses in bloom on the 15th, and violets on the 16th.

Burlington, New Jersey.—March 25 and 26. High wind from the northwest

blew the water out of the Delaware river, so that the tide was lower than has been remembered by any person living in the place.

Dyberry, Pennsylvania.—March 7.—Ice on a natural pond seventeen inches thick. 21st, ground frozen eight inches. 31st.—March is always considered the best month here for making maple-sugar, but this year it was too cold. Seven inches of snow fell in March, making fifty and a half inches during the winter; yet there was scarcely any good sleighing.

Tioga, Pennsylvania.—March 21.—Diffuse lightning and heavy thunder southwest at 2 a. m., accompanied by a little rain. 28th, river frozen over again for the seventh time this winter. 31st, no snow in March deep enough to measure, which is very unusual here.

Horsham, Pennsylvania.—March 31.—The month throughout has been unusually cold, blustering, and unpleasant. Vegetation is very backward; everything still looks like winter; very little ploughing has been done in this neighborhood.

Fallsington, Pennsylvania.—March 31.—The month has been very backward; scarcely any agricultural operations are yet commenced in this vicinity.

Pennsville, Pennsylvania.—March 20.—Afternoon showery; barometer falling. 21st, thunder, lightning, and rain in the past night; barometer low. At 7 a. m. the thermometer the highest at that hour during the month, except on three other mornings. At 9 p. m. it had fallen 21 degrees, and the barometer more than the third of an inch in the same time. 31st, vegetation has made little or no progress; the lack of steady snow and the frequent hard freezings make the fate of the winter crops doubtful.

Canonsburg, Pennsylvania.—March 20.—Thunder and lightning, with rain, at 5 p. m.

Wytheville, Virginia.—March 21.—At 7 a. m. the lowest barometer of the month is recorded, and the temperature was higher than at the same hour on any other day except the 14th.

Pilatka, Florida.—March 10.—Oranges are now about gone, and the trees are putting out in sweet beautiful flowers. All kinds of garden vegetables are raised here twice a year. The gardens are now planted for spring, and in September will be planted again.

Grenada, Mississippi.—March 20.—Storm of wind and rain, with unusually severe and frequent thunder from the southwest, beginning at 8 p. m. and continuing one hour.

Natchez, Mississippi.—March 20.—Overcast; at 5.15 p. m. distant thunder in the west; 5.30 p. m. a light sprinkle of rain. 21st, a severe thunder-storm began at 2 a. m. from the northwest; clear at noon.

Helena, Arkansas.—March 20.—Temperature at 7 o'clock this morning 68°, which was the highest at that hour during the month. No rain is mentioned on the record after the 15th till the 23d.

Clarksville, Tennessee.—March 20.—From 9 to 11 o'clock p. m. the sky was nearly cloudless and brilliant; but to the north along the horizon a low cloud was lying, in which at numerous points remote active lightning was observed reflected on the sky, and apparently passing from the west. 21st.—About 1½ o'clock this morning it commenced raining in brisk showers, (sometimes heavy and short,) which continued until about 3 a. m. During the storm some very heavy thunder occurred; wind moderate from the westward.

Chilesburg, Kentucky.—March 20.—A thunder-storm last night, with very loud thunder; showers at long intervals until 12 o'clock. 21st, another thunder-storm last night.

Louisville, Kentucky.—The barometer was lower and the thermometer higher on the 20th than on any other day of the month.

Ripley, Ohio.—The temperature at 9 p. m. on the 20th was 66°, the highest

which it reached at that hour during the month; at the same hour next day it was 34° . The minimum barometer of the month was at 9 p. m. on the 20th.

Urbana, Ohio.—On the 20th, at 9 p. m., the barometer was the lowest during the month, and the temperature (62°) was higher than at the same hour on any other day; the next day, at 9 p. m., it had fallen to 28° . Heavy thunder from $7\frac{1}{2}$ a. m. to 8 a. m. of the 20th; also from $10\frac{1}{2}$ p. m. till 1 o'clock next morning, with light hail for about a minute at 11 p. m.

Westerville, Ohio.—March 20.—Considerable thunder and lightning in the morning; terrific storm at night. The lowest barometer of the month was at 9 p. m. on that day, and the temperature was higher then than at the same hour on any other day; at 9 p. m. next day the temperature was $31\frac{1}{2}^{\circ}$.

Hillsborough, Ohio.—March 20.—Thunder, lightning, and rain from 3 to 4 a. m. and afterwards; storm of thunder, hail, and rain at 12 p. m.; temperature at 9 p. m. (the highest of the month at that hour) 62° ; at the same hour next day 29° ; lowest barometer of the month at 9 p. m.

College Hill, Ohio.—March 20.—Thunder-storm about 3 a. m. and another at 10 p. m.; direction of the latter from southwest to northeast, attended with high wind and a great display of lightning, more so than is often in March. The highest temperature of the month at 9 p. m. was on this day.

Gallipolis, Ohio.—The temperature at 9 p. m. on the 20th was 66° , the maximum of the month, except at 2 p. m. on the 13th and 14th. At 9 p. m. on the 21st the temperature was 33° .

Marion, Ohio.—The highest temperature at 9 p. m. was 56° on the 20th; the same on the 2d. At 9 p. m. on the 21st the thermometer had fallen to 28° . Thunder-storm in the night of the 20th.

Welshfield, Ohio.—March 20.—Thunder and lightning in various directions from 3 to 6 p. m., and a heavy thunder-storm from 10 to $11\frac{1}{2}$ p. m. No damage done.

Bethel, Ohio.—The last two-thirds of the month has been very wet, intermixed with freezing and thawing, so that farm business has been suspended; ploughing for oats was impossible; none sowed for the last twenty days; a few were sown in the first part of the month; sod ground has not been ploughed to much extent on account of the wet; peach-blossom buds are entirely killed; winter wheat is killed at least one-half.

Norwalk, Ohio.—Four inches of snow fell on the morning of the 19th. At 9 p. m. on the 20th the thermometer was 34° ; rain from 7 a. m. to 10 p. m.; frost disappeared from the ground about the 25th. This was the coldest March since the observer has kept a record.

Smithfield, Ohio.—March 20.—Thunder-storm at $9\frac{1}{2}$ a. m., direction west to east; church at Mount Pleasant, near this point, was struck by lightning. 21st, thunder-storm and tornado at 2 a. m.; direction northwest to east; lightning diffuse; some small hail. 31st, frost all out of ground; the ground was frozen during the month on an average eight inches; streams all open.

Wooster, Ohio.—March 20.—Thunder and lightning at 2.50 p. m.

Kelley's Island, Ohio.—Rain or snow every day from the 11th to the 21st. On the 20th drizzling rain, freezing as it fell; vegetation loaded with sleet; thunder-shower from about 9.30 to 11 p. m.; thermometer at 9 p. m. 33° . 31st.—The steamer *Island Queen* succeeded this afternoon in getting through the ice in Sandusky bay, and reached the island. There is still considerable floating ice, but no further serious obstruction from ice need be apprehended in the west end of the lake. This is about ten days later than the average opening of navigation in this vicinity.

New Lisbon, Ohio.—March 20.—Heavy rain, with thunder and lightning, in the afternoon; also rain, hail, thunder, and lightning in the night.

East Fairfield, Ohio.—March 15.—The frost is nearly all out of the ground on the southern hill-sides. 16th, first flock of wild geese flying north, and of

wild ducks flying southwest. 17th, level ground was thawed from two to ten inches deep, with from nothing to ten inches of frost still underneath yesterday, and is rapidly freezing up again to-day. 20th, rainy morning and evening; thunder and lightning from 4 to 6 p. m., and a thunder-gust, with heavy wind, after midnight. Rain or snow on twenty-four days during the month.

Kingston, Ohio.—March 20.—Thermometer at 9 p. m. 66°; same hour next day 31°; thunder-storm between 5 and 6 a. m.; also a heavy thunder-storm, with high wind, late at night and early next morning.

Toledo, Ohio.—March 20.—Rain nearly all day, with a severe shower in the evening, attended with sharp, loud thunder, quick flashes of lightning of a pale bluish light and some hail. The shower seemed to come from a northwestern portion of the horizon, which was rather unusual for a March thunder-shower. Thermometer at 9 p. m. 33°. 28th, sleighs out, and sleighing quite good on paved streets.

Milnersville, Ohio.—March 21.—Yesterday was showery, and last night, about an hour after midnight, a furious storm of lightning, thunder, wind, rain, and hail for a few minutes occurred. No serious damage has been done here so far as known.

Homestead, Michigan.—March 20.—Snow, hail, and rain; thundered at 5 p. m., when it was snowing; a war of elements to-day; mean temperature of the day, 17 $\frac{1}{3}$ °. April 3, the wind was northerly during most of the month of March, and the temperature low; but few days to remind of spring. The ice on Traverse bay is twenty inches thick; this is unprecedented. Snow at this date thirty inches: it has gone off some for two days past. Not a pound of sugar has been made, and the buds are as dormant as in February. Heard first robin and crow this morning.

Lansing, Michigan.—March 20.—At 6 p. m., brilliant flashes of lightning, followed by distant thunder. In about fifteen minutes a peculiar hurtling sound was heard in the east, gradually approaching, and soon a furious fall of hail, some of the stones measuring an inch to an inch and a quarter in diameter, in the form of an oblate spheroid, and containing an opaque nucleus, and in some instances there were alternate concentric rings of opaque and transparent ice. The hail lasted about half an hour, followed by a heavy fall of rain and occasional dashes of hail. The lightning, which was of great brilliancy, with heavy thunder, lasted till ten o'clock and gradually passed off to the southwest. The thermometer at 2 p. m. was 28°, and at 9 p. m. 31°.

Holland, Michigan.—March 20.—Lightning the past night; a little rain and sleet in the forenoon; thunder and lightning in the afternoon, with rain and hail, the rain continuing till 11 p. m.

Columbia City, Indiana.—March 20.—Several hard claps of thunder in the afternoon. Five inches of snow fell from 11 p. m. of the 18th to 5 a. m. of the 19th. Two and a quarter inches of rain from 3 a. m. of the 20th to 10 p. m. of the 21st. Thermometer on the 20th at 9 p. m. 28°.

Balbec, Indiana.—March 31.—Frost not out of the ground except in the most exposed situations. Ice in pond eight inches thick.

Richmond, Indiana.—March 20.—Interrupted rain till 9 a. m.; turned warm very fast from that till 1 p. m.; barometer very low; thermometer 62° at 1 p. m., when the wind changed suddenly to the northeast, and the temperature fell fifteen degrees in thirty minutes. About 5 p. m. the wind changed back to the southwest, making a full revolution in four hours. At this time a heavy bank of cloud lay in the west and northwest. From 7 till 10 p. m. there was a great deal of lightning; the rain then began, but not very heavy. At 9 p. m. the thermometer was again 62°; at 7 next morning, it had fallen to 31°.

Spiceland, Indiana.—March 20.—Considerable rain, lightning and thunder in the morning; thermometer at 9 p. m. 63°.

New Harmony, Indiana.—March 20.—Distant thunder storm at 6. m.; thermometer at 9 p.m., 67°.

Vevay, Indiana.—From 11.30 p. m., March 20, to 2 a. m. 21st, a terrific thunder-storm passed over this place. Its direction was from the southwest to the northeast. It was preceded by a violent gale with rain, which continued during the entire storm. The lightning was forked and intensely brilliant, followed in rapid succession by loud peals of thunder, dying out with a low reverberating sound. At 11.45 p. m., a severe hail-storm came from the southwest, and continued twenty minutes. The quantity of hail which fell was not large; the size varied from one-half to three-quarters of an inch. Very little damage was done to trees and plants, and only a few windows were broken. At 11 p. m., the thermometer was 69°; at 2 a. m., 55°.

Connersville, Fayette county, Indiana.—The most destructive wind-storm experienced in this section of Indiana within the memory of the oldest citizen visited Connersville on Tuesday night, the 20th March, about 10 o'clock. The power of the storm seems to have been almost unlimited. Desolation and ruin mark its track. The first notice we had of the tornado is that it crossed the Connersville and Rushville turnpike road, two miles west of Vienna. From thence it proceeded southeasterly, crossing the county-line road nearly one mile south of Vienna; thence to the Justice farm, where it took a northeast course until it reached the farm of Thomas C. Marks. From Marks's farm its course was almost due east until it reached the hills west of Connersville, which the tornado rolled over and came down like an avalanche upon our devoted little town, hurling fragments of trees and buildings in every direction. Beginning at south end of the town, which is enclosed within an acute angle wedged in between the hills and the river, the storm seems to have divided, part of it taking a northeasterly course until it passed beyond the town, while the right wing crossed the river, bearing about due east. Every inhabitant of that part of the town lying south of the public square and east of Monroe, up to Harrison street, has some memento of the tornado in or about his premises. Such a scene of ruin we never before witnessed as met our eye on Wednesday morning. Had the entire force of the storm passed through the town, we have no doubt that its site would now be marked only by ruins.—*Connersville Times, March 22 and 29.*

Lebanon, Boone county, Indiana.—March 21.—Our place was visited last evening with one of the most severe hail-storms ever known in this part of the country, accompanied by heavy winds from the west, uprooting many of the forest trees and displacing fences in this vicinity generally. In the town one-half of all the windows fronting west were broken by the hailstones.—*Correspondent Cincinnati Commercial.*

Montgomery county, Indiana.—A disastrous tornado passed over a portion of Montgomery county, Indiana, on Tuesday night, the 20th of March. The Crawfordsville Journal says it struck the county west of Parkersburg, passing just north of that place, taking a northeasterly course, and crossing the Louisville, New Albany and Chicago railroad about a mile and a half north of Ladoga. It is supposed to have been the most destructive storm that ever passed through the county.—*Newspaper.*

Sullivan, Moultrie county, Illinois.—On the 20th of March, the vicinity of Sullivan, Moultrie county, Illinois, was visited by a terrific tornado. Its width was not more than three hundred yards, and it seemed to be a gigantic whirlwind. It struck Moultrie country on the west line near the southwest corner, and passed through its whole width in a northeasterly direction towards Arcola, in Douglas county, scattering terror, confusion, destruction, and death along its course. Great old trees were uprooted and carried to an immense distance. Houses, barns, fences, &c., were lifted from the ground and scattered in the wildest confusion. Cattle, sheep, hogs, horses, and fowls were killed or carried away. Wagons, hay stacks and corn cribs were swept before the tempest like

feathers. Some twenty houses, as far as heard, were utterly demolished, and several persons were killed and others badly hurt. During the progress of the storm and some time after, hailstones fell as large as walnuts.—*Correspondence Cincinnati Gazette.*

Winnebago, Illinois.—March 20.—Moderate interrupted rain, with heavy long-continued thunder at distant intervals, began about 2 a. m. and changed to fine rain, which continued through the day. Temperature below freezing point all day. 31st.—March has been a cold backward month, the mean temperature being nearly six and a half degrees below the corresponding month for the preceding eight years. Only five days in the month had a mean temperature above freezing.

Marengo, Illinois.—March 19.—A heavy storm of sleet from the northeast commenced in the night and continued nearly all day of the 20th. Trees, buildings, &c., covered with ice three-quarters of an inch thick, and remained so two days. 31st.—No signs of breaking up yet. At this time in 1865 the wheat and oats were nearly all sown in this section.

Riley, Illinois.—March 5.—The depth of frost varies from one and a half to four feet—according to exposure. 20th.—At 1 a. m. hail as large as peas, then thunder and lightning six or seven times, and sleet, covering everything exposed an eighth of an inch thick with ice; fog, mist, and rain all day; repeated thunder showers all the afternoon. Thermometer 30° at 7 a. m., 31° at 10 a. m., and so stood till 4 p. m., and began falling and was down to 26° at 9 p. m. 31st.—The monthly mean is 3.56° below the mean of ten years. The amount of rain and melted snow about equal the mean of eleven years.

Chicago, Illinois.—March 20.—Thunder and lightning with wind and hail. 22, a terrific storm of hail, covering the ground two or three inches deep; many of the stones were from one and three-quarter to two and three-quarter inches in diameter. The time not mentioned on either day.

Aurora, Illinois.—March 12.—The ice moving out of the river; the water very high. 19th, some distant thunder and lightning at 9 p. m. 20th, some heavy thunder and sharp lightning from 4 a. m. to 6 a. m. 22d, robins first seen. 31st, about two feet of frost in the ground. This March has been the coldest for a number of years.

Wyandot, Illinois.—March 20.—Hail very large, some an inch across, flattish; heavy thunder and rain from $3\frac{1}{4}$ to 4 p. m. 31st.—The spring is backward, and the frost not near out of the ground.

Ottawa, Illinois.—March 1.—A general breaking up of the Illinois river to-day; a large, expensive bridge and portions of fences, also large forest trees, lumber, &c., &c., floated down. This is a very heavy freshet, and the ravines are all under water. 2d, the river is still rising, and large cakes of ice, lumber &c., are passing down. 19, rain and hail at 11.5 p. m., with lightning in the west. 20, at 2.10 a. m. a thunder-storm; hail, the size of hazel-nuts; rain, diffuse lightning and heavy thunder; also lightning and heavy thunder p. m.

Tiskilwa, Illinois.—March 31.—Ground thawed but very little; the last of the snow only disappeared to-day. No sowing or any other spring work done yet on the farms in this vicinity. No trees dug, and cannot be for a week yet. Last year the observer, a nurseryman, began to dig on the 23d of March, which was later than in any other spring for the past fourteen years.

Galesburg, Illinois.—March 21.—Robins first appear. 22d, wild geese passed north. 31, ground frozen from two to three feet deep on the open prairie. The month has been cold, cloudy and unpleasant.

Clinton, Illinois.—March 19.—A great hail-storm commenced at 4.30 p. m., and lasted thirty minutes; it came from the southwest. 31.—March has been a cold month; the large amount of snow in this region prevented farmers from gathering their corn, and large quantities are yet to be gathered.

Springfield, Illinois.—March 20.—A severe hail-storm passed; hailstones

as large as filberts and hazel-nuts. 31.—This has been the most unpleasant March for many years; very cold and disagreeable; no spring wheat sowed and no corn ground broken; the spring is very backward. Buds are commencing to swell. Frost has disappeared entirely within the last ten days.

Dubois, Illinois.—March 28.—Farmers are beginning to plough for oats. 31.—The month has been the most cloudy one for many years; a less amount of snow fell the past winter than in any winter in southern Illinois which is remembered. Mean temperature of the 18th, 45°; 19th, 55°; 20th, 65°.

Golconda, Illinois.—Mean temperature of the 18th, 55°; 19th, 65°; 20th, 37°. On the 19th (20th?) there was a heavy storm to the west. It did not rain much here, but hailed two or three times between 4 and 10 p. m.; the hail-stones during the first shower were nearly an inch in diameter. There appeared to be three storms. A correspondent at Vienna, twenty-four miles west of Golconda, writes to the *Observer* that there were three storms in that vicinity nearly simultaneous—one eight miles north of Vienna, one a little south, and one eight miles south. He says: "About 5 o'clock p. m. my attention was called towards a curious shaped cloud, which at its first discovery was apparently drifting with the wind in an easterly direction. The cloud was a perfect inverted cone. As it progressed a spiral column formed at its point, which reached the earth. At first a jet-black hue, it gradually grew lighter, until it finally resembled steam immediately after it had passed a little to the south of me; eastward a violent storm of rain and wind set in and lasted a short time." In the path of each of the three tornadoes everything was levelled to the ground, houses were entirely destroyed, and trees snapped off like pipe-stems. Thirty-persons were killed.

Andalusia, Illinois.—March 20.—About 3 a. m. there was a very severe hail-storm; the ground was completely covered with hail-stones; quite a number of them were found by measurement to be an inch and a quarter in diameter. The hail was succeeded by a light fall of rain, that froze as it fell.

St. Louis, Missouri.—March 19.—Diffuse lightning in the west at 9 p. m.; rain at 11 p. m., continuing only for a few minutes, accompanied by thunder and lightning; the lightning continued till near morning. 20th, temperature at 7 a. m. was the highest during the month, except at 2 p. m. on several days. At noon it was 83°, and fell to 26° during the night or early next morning. The lowest barometer of the month was at 2 p. m. on the 20th. Diffuse lightning from about 6 p. m. to 9 p. m.

Allenton, Missouri.—March 19.—At 8.30 p. m. thunder and lightning at a distance towards the southwest. 20th, at 4 p. m., distant lightning towards the west and southwest; temperature at 7 a. m. higher than at any other observation, except on several days at 2 p. m. At 2 p. m. the temperature was 84°, at 7 o'clock next morning 26°—a fall of fifty-eight degrees. The lowest barometer during the month was at 2 p. m. on the 20th.

Union, Missouri.—March 19.—Thunder and diffuse lightning at 9 p. m. in the west. 20th, thunder shower at 3 p. m., lasting thirty minutes; thermometer at 2 p. m. 84°, at 7 a. m. next day 30°. 21st, white elm trees in bloom; blue-grass plats bright green; dock, flag, and some other herbs have grown three inches. 31st, no perceptible growth of vegetation since the 21st.

Athens, Missouri.—March 2.—Des Moines river broke up; ice gorged; water unusually high and causing great destruction of property. 18th, rain, accompanied by heavy thunder. 19th, misty rain, and hail as large as a quail's egg.

Harrisonville, Missouri.—March 18.—Distant and diffuse lightning in the east at 9 p. m. and later. Rain or snow on only four days during the month—the 12th, 13th, 16th, and 26th.

Plymouth, Wisconsin.—March 31.—The month has been unusually cold and

unpleasant, with prevailing north and west wind. The mean temperature was nearly four degrees below the average of the last six years.

Manitowoc, Wisconsin.—March 15.—First steamboat from Milwaukee; ground frozen three feet deep.

Beloit, Wisconsin.—March 20.—Heavy shower and thunder-storm from the southeast; the first thunder of the year; ground supposed to be frozen three or four feet.

Waupacca, Wisconsin.—March 19.—A very severe storm commenced in the night; strong wind from the northeast, almost a gale, accompanied by hail and snow. 20th, at noon a real summer thunder shower with hail and snow for rain; sharp lightning and heavy thunder rolling and rumbling from southwest to northeast, continuing more than an hour; three inches of snow fell during the day; thermometer at 7 a. m. 10°; at 2 p. m. 16°; at 9 p. m. 12°

Embarrass, Wisconsin.—March 20.—Snow and hail storms to-day, with heavy thunder and sharp lightning from 11 a. m. to 1 p. m. The storm came from east. 31st, sleighing has been first rate nearly all the month and lumbermen have done well.

Weyauwega, Wisconsin.—March 20.—At 6.30 this morning snow commenced falling, shortly after it became sleet; snow mixed with sleet has fallen all day and still continued at 9 p. m. No rain has fallen; more than half a dozen loud claps of thunder were heard in the middle of the day, snow falling at the same time; several very bright flashes of lightning were also seen; the wind which has been east and northeast is now north; thermometer at 7 a. m. 9°; at 2 p. m. 12°; at 9 p. m. 9°

Afton, Minnesota.—March 31.—Ground covered with snow and but little or no frost in the ground.

St. Paul, Minnesota.—March 31.—Depth of ground frozen during the winter unusually slight by reason of the early fall of snow in December ranging from three to six inches; the Mississippi not yet open.

Muscatine, Iowa.—March 7.—Ice in the Mississippi started and run one hundred yards. 9th, ice run out to-day. 11th, blue birds made their appearance; steamer *Resolute* passed up the river; came down on the 12th. 20th, hail an inch in diameter fell to-day. 31st, snow melted off, having laid five days; the season is very backward; no spring wheat sown yet.

Iowa City, Iowa.—March 20.—Rain and hail storm with thunder and lightning from 3 a. m. to 6 a. m. Hail as large as cherries; storm spent here and terminated a mile south, but extended north to the Minnesota line; hailstones larger all the way. 24th, Iowa river full of ice.

Dubuque, Iowa.—March 20.—Distant thunder at 1.30 a. m. At 5 a. m. severe hail-storm and much lightning and rain, which coated the ground and trees with about one-third of an inch of solid ice; east wind and slight mist all day; in the evening a slight snow. 30th, wild geese flying north.

Davenport, Iowa.—March 5.—Mississippi river commenced breaking; the ice moved down a quarter of a mile and there remained. 7th, bluebirds singing. 11th, ice moved again but the channel is not clear; the river is open a mile below the city. 20th, a terrific storm passed over about 1 a. m.; hail, sleet, and rain; hail quite large; the windows were broken in some parts of the city; lightning and thunder vivid and loud; a barn was struck by lightning, making a large fire; the storm came from the northeast. 22d, robins singing; wild geese flying north. 24th, channel of the river free from ice; boats running.

Clinton, Iowa.—March 31.—The month has been cold and backward, with much stormy, cloudy weather; very many sudden changes. The ground is still frozen three feet deep. Snow on the ground half the month. Ice went out last night; boat went through the bridge the first time. Ice in the river later than it has been for five years.

Lyons, Iowa.—March 1.—Bluebirds first noticed to-day. 19th, rain, hail

and thunder during the night. 20th, ice in the river moved down to-day; stopped at night. 23d, ice moving rapidly. 31st, the ferry-boat commenced her regular trips; ice all out.

Guttenberg, Iowa.—March 20.—Hail-storm accompanied by thunder and lightning at about 1 a. m.; hail-stones, or rather small balls of solid ice, the size of common peas, covered the ground in the morning. At 7 a. m. a dense mist, which froze when it came in contact with outdoor objects, giving them a glazed appearance. 31st, the season is very backward and field-work has not yet commenced.

Monticello, Iowa.—March 3.—Snow melting rapidly, river high, ice broken up and thrown on the banks. 4th, snow gone from the prairies excepting drifts. 10th, ground frozen four feet deep on an elevation used for a cemetery. 12th, Bluebirds made their appearance to-day. 20th, very large hail and some rain attended with lightning and thunder at 2 a. m.; two fat oxen and some hogs were killed by lightning. 31st, ground bare.

Manchester, Iowa.—March 20.—At 2 a. m. a trifle of hail, then thunder and lightning; a trifle of rain which froze as it fell and formed a heavy sleet. 31st, the last snow gone; an occasional drift yet in sight. The ground has thawed but a few inches deep.

Leavenworth, Kansas.—March 9.—The thermometer fell ten degrees from 10 a. m. to 12 m., and then rose again. 20th, temperature at 7 a. m. 56° , which was the highest at that hour during the month. It rose rapidly to 58° and then fell to 40° within four hours, from 8 a. m. to 12 m.

Olatha, Kansas.—March 20.—Temperature at 7 a. m. 60° , which was the highest recorded during the month except at 2 p. m. on the 18th, 19th, 30th, and 31st.

Elkhorn City, Nebraska.—March 20.—Sprinkles of rain before day to $10\frac{1}{2}$ a. m.; snow at $4\frac{1}{2}$ p. m. one inch. 31st, the month has been cold and backward; spring has scarcely advanced perceptibly; a little spring wheat has been got in on fall ploughing.

Glendale, Nebraska.—March 31.—Ground still frozen below eight inches.

MONTHLY REPORT

OF

THE AGRICULTURAL DEPARTMENT.

JUNE, 1866.

WASHINGTON:
GOVERNMENT PRINTING OFFICE.
1866.

MONTHLY REPORT.

DEPARTMENT OF AGRICULTURE, *June*, 1866.

The condition of the crops, always a consideration of vital importance between seed-time and harvest, has excited more attention this season than for many years. Apprehensions arose, not without some cause, that scarcity of breadstuffs might follow the winter-killing of the cereals which was reported very generally throughout the country. In some portions of the central wheat-growing States an almost entire failure seemed inevitable.

I am happy to be able to say that apprehensions of scarcity, which might threaten compulsory economy of consumption, or warrant extraordinary prices, are groundless. With the stock of wheat on hand, and the substitution of corn and buckwheat for wheat, which always attends highly remunerative prices of flour, there is a present prospect for an ample supply for all our wants, and enough to spare to send to Europe twice the amount of the paltry exports of breadstuffs of the last year.

From a careful analysis of statistical returns, with due regard to the usual average product and present losses of each State, the prospect on the first of June was for seven-tenths of a crop. With favorable weather, and absence from casualties before harvesting, the indications point to three-fourths of an average total yield of wheat.

Indiana seems to have suffered most from winter-killing. Appearance, thirty-four per cent. Ohio, 4-tenths. But Indiana has 4-tenths more spring wheat than usual, and Ohio $2\frac{1}{2}$ -tenths. This should give each, of spring and winter wheat together, a total of 5-tenths. Illinois promises three-fourths of a crop, though the appearance of winter wheat was 7-tenths. Wisconsin, the appearance of winter wheat $6\frac{1}{3}$ -tenths, a prospect for at least three-fourths of a crop. Iowa, in view of the breadth of spring wheat, should give a full crop. Kansas will have 15-tenths of an ordinary crop. Missouri and Minnesota will have more than an average. The district west of the Mississippi, taken together, promises decidedly more than an average. New York, New Jersey, and Pennsylvania each indicate 8-tenths of a crop. In New England the injury to winter wheat was less than 1-tenth in New Hampshire, 24 per cent. in Maine, 1-tenth in Massachusetts, and 3-tenths in Vermont and Connecticut. But these States produce little winter wheat. All but Massachusetts put in an average breadth of spring wheat.

Most of the other crops look well. For particulars I refer the reader to the body of the report.

A very interesting and valuable series of tables is given this month, showing the average yield of the principal farm products per acre for four years past, and the average cash value of the same for each of the four years, and for the whole period.

A comparison of the farm stock of the United States and of the countries of Europe, from official and other reliable data, shows that no country equals this in numbers of cattle or sheep, and especially of swine, either in proportion to population, or in totals exhibited.

Our depreciation in farm stock since 1860 is estimated at ten per cent. for horses, twenty per cent. for mules, seven per cent. for cattle, and twenty per cent. for swine. The numbers of sheep have doubled in the northern States in the same period.

The following is the order of the nations named in proportion of population to cattle supply: United States, 1.2 people to each head of cattle; Denmark, 1.4; Bavaria, 1.5; Sweden, 2; Hanover, 2.2; Austria, 2.5; France, 2.6; Holland, 2.7; Russia, 2.9; Prussia, 3.2; Great Britain, 3.5; Belgium, 3.6; Spain, 5.3.

A brief synopsis is made from a translation of original official reports of experiments in vaccination for rinderpest, received from the Russian minister, tending to throw light upon the character and peculiarities of the disease.

Among the statistical expositions will be found an analysis of the statistics of cotton culture in the principal cotton-growing States, with a location and brief description of the best cotton soils.

A notice of the Brazilian exhibition at Rio de Janeiro is from data furnished by the Brazilian minister of state.

A change has occurred in the conduct of the statistical division, the head of which is *ex officio* editor of the reports. J. R. Dodge, heretofore occupying a responsible position in this department, was last month appointed statistician, in place of Lewis Bollman, resigned.

ISAAC NEWTON, *Commissioner*.

THE BEST COTTON SECTIONS.—NO. 1

MISSISSIPPI.

Mississippi is the central State of the cotton belt. It probably has a somewhat larger proportion of good cotton lands than any other. Alabama will come next in order. In 1850 the latter State stood first in production, yielding 564,429 bales. Georgia held the second rank, with 499,091 bales; while Mississippi followed, with 484,292 bales. In ten years the third became first, distancing by a long stride all competition, and throwing upon the market 1,202,507 bales, thus contributing almost one-fourth of the cotton crop of the United States, at a period when the aggregate was more than double the quantity produced in 1850.

These figures indicate natural advantages, which attracted immigration and stimulated enterprise, aside from the accident of centrality, which naturally tended to arrest the steps of the westward-going emigrant. But it is not necessary to rely upon theory or speculation. Much of the northern and all of the western portion of the State north of Vicksburg is alluvion. The broad and practically bottomless Mississippi bottoms, between the great river and the Yazoo, have scarcely one-fourth of their area open to cultivation. Hundreds of thousands of acres of the best lands of America are here found still in the wilderness. Here was the widest portion of the inland sea which once occupied the lower valley of the Mississippi. Its exceeding fatness is Nile-like, without the aridity of Egypt. Its soil resembles in fineness the ocean's bed, and is enriched by the opulence of the sea and the munificence of the land in the dead organisms of former prolific and vigorous life, which furnish in abundance the lime and potash and other elements which cotton requires.

The Yazoo, the Big Black, and the Tombigbee furnish scarcely inferior cotton lands; and the uplands of Hinds, Madison, and Warren counties—the "rotten limestone" section of the State—are unsurpassed for cotton lands of this grade, and unequalled, except by the canebrake lands of central Alabama.

Other States boast sections of equal fertility, as the river lands of Louisiana and Arkansas, especially a wide area on Red river, and the lands of central Alabama and portions of Texas; but for extent of acreage of superior soil, in proportion to total area, Mississippi must be accorded the position as the Illinois of the southwest. Yet there is much sandy and comparatively poor soil in the southern and southeastern sections of the State.

As an evidence of the fertility of the Mississippi bottoms, some facts, as elicited by the last census, may be given concerning Issaquena county, lying north of Vicksburg. Throughout the south, it should be noted, the amount of acreage of improved lands in farms, compared with the products of such county, affords little criterion for an accurate estimate of comparative fertility. There may be a hundred thousand acres improved, yet less than half actually in cultivation in any one year. Year by year patches, sections of fields, neglected, half cultivated, or abandoned, grow up in broom sedge or pines, or other wild but vigorous growths. But there are certain sections of cotton country, practically inexhaustible in fertility and convenient of access, that rarely lie fallow. Issaquena affords a fine illustration. With only 56,596 acres improved, it yielded 41,170 bales of cotton, besides corn and other products. Yazoo, a rich county, boasting more cotton than any other in the State, had 179,288 acres, and produced 64,679 bales.

An examination of the statistics of Issaquena will afford practical data for calculation of the amount of stock, implements, and labor necessary for cotton-planting, after making proper allowances for changes in the status of labor, in implements, &c. At least it will greatly assist in such calculation.

Nearly two-thirds of the farm land is unimproved, and yet the average assessed valuation is \$39 per acre.

The white population, 587; colored, 7,244; slaveholders, 115.

Number of horses, 554; mules, 2,082; working oxen, 1,229; cows, 1,516; other cattle, 3,604; sheep, 1,436; swine, 6,615.

Number of plantations, 104, averaging 544 acres improved and 1,043 unimproved, with 69 slaves upon each.

Investment in implements, (average,) \$1,376; in live stock, \$4,204, including 20 mules, 5 horses, 6 pairs of working oxen.

Products, 41,170 bales of cotton; 398,500 bushels of corn; 1,420 bushels of oats; 1,800 bushels of beans and peas, potatoes, &c. This is $5\frac{2}{3}$ bales for every colored man, woman, and child, or, if children are in usual proportion, at least 10 bales to each working hand, and still more possibly for each worker exclusive of house servants. It is 20 bales to each mule; 395 bales to each plantation. For each bale (compared with investments) \$10 64 is required in live stock, and \$3 45 in farm implements.

A fair indication of the best cotton districts is afforded by a presentation of the counties in the several States making the greatest yield of cotton. Let the reader trace upon the map the sections of Mississippi here presented :

Counties.	Improved acres.	Bales cotton.	Bushels corn.
Yazoo.....	179,288	64,675	956,220
Hinds.....	190,599	54,685	1,028,343
Madison.....	239,788	51,327	1,194,540
Lowndes.....	167,373	51,234	1,157,271
Noxubee.....	162,835	50,096	1,286,085
Marshall.....	214,939	49,348	1,068,350
Monroe.....	153,699	46,385	1,145,499
Holmes.....	136,992	41,840	845,724
Issaquena.....	56,596	41,170	398,500
De Soto.....	174,952	40,113	834,165

These figures serve to illustrate the suggestions above relative to the superior cotton lands of the State. The plantations of the State average 370 acres, of which 117 are improved. They are 42,840 in number, about 12,000 cultivated by white labor, as the number of slaveholders is placed at 30,943. The average price of land is \$12 04 per acre, or \$4,454 for each plantation; $10\frac{1}{2}$ slaves (old and young;) $5\frac{1}{2}$ horses and mules; \$206 in farm implements; \$977 in live stock; 28 bales of cotton, (five or six to each field hand;) 677 bushels of corn; $13\frac{3}{4}$ bushels of wheat. The great number of small farmers in each State greatly reduces the averages, and makes the large and well-managed plantations appear to disadvantage, just as averages in wheat-growing States show 12 bushels per acre, where good farmers would be ashamed to grow less than 25 bushels; so the average of cotton is scarcely more than one-half bale to the acre, when good land, with good culture, and exemption from insects, will easily secure a bale, and in extreme cases a bale and a half, and even two bales. These are the facts which sensible men unacquainted with cotton can judiciously use as safe elements in a calculation of the economy of cotton-planting.

In the next number a similar analysis will be given of the cotton statistics of Alabama and Louisiana, respectively, with a brief reference to the location and character of the best cotton soils in those States?

EXHIBITION AT RIO DE JANEIRO.

There has been received at this department, through the Department of State, a communication from the counsellor Azambuja, minister of Brazil, relative to a "national exhibition of the husbandry and industrial products of the country," at Rio de Janeiro, on the 19th of October of the present year.

He states that the imperial government "thinks it advisable to connect with this a special exhibition of machines and their furnishings, and instruments, manufactured in foreign countries, intended for the cultivation, preparation, and improvement of agricultural productions."

He leaves it with the Secretary of State to invite official attention to the subject, if he deems it proper.

From the accompanying regulations and instructions of the managers of the exhibition, it appears that machinery and implements from abroad will be admitted, and must be inscribed "foreign," with the name of the manufacturer, inventor, and cost of each. They may be exhibited and worked by the exhibitors, but cannot compete for the premium. The necessary space and steam-power will be furnished free, but no machinery requiring foundations or special constructions will be admitted. Transportation will be paid by exhibitors. No machinery can be removed without special permission. After the exhibition is over, the goods may be sold, in which case they will be subject to a duty of one and a half per cent. *ad valorem*, but if re-exported, they are free of duty. Passes are furnished free to exhibitors.

All persons wishing to participate in this exhibition "will give due notice of such intentions to the Brazilian minister, (in New York,) with full particulars of their machines."

The empire of Brazil is a field which our manufacturers of agricultural implements cannot afford to neglect to cultivate. It is to be hoped that they may arrange to extend the fame of their goods, and thus add to their business and their profits in this promising direction.

RUSSIAN OFFICIAL EXPERIMENTS IN VACCINATION FOR RINDERPEST

The Department of Agriculture is in receipt of a report of experiments made by a committee appointed by the Russian secretary of the interior, at Bondarewka and Salmysche, relative to the protection afforded to cattle by vaccination for rinderpest. It was communicated by the Russian minister, through the Department of State.

Experiments of a similar character were initiated, in accordance with the suggestion of Professor Jessen of Dorpat, in 1852, with results so various and indefinite that the government determined further and more thoroughly to test the virtues of vaccination. Accordingly an appropriation was made of ten thousand roubles annually, for three years, and a committee appointed, on which was Professors Jessen, Rawitch, and Roynoff, with instructions to continue experiments in three established institutions for vaccination. This was in 1858, but active operations did not commence till 1860, and then only at two points in southern Russia—Salmysche and Bondarewka—under the immediate superintendence of Veterinary Surgeon Kobuscheff at the former place, and of Surgeon Sergeeff at the latter. These experiments continued through four seasons.

The results, though still various and in some respects conflicting, are interesting and instructive. They show certainly the different degree of susceptibility in different breeds, and the loss or destruction of the vitality of the vaccine virus with age. The wide difference in severity and fatality, noticed in the two series of experiments, is readily suggested by the fact that matter from two to nine months old was principally used at Bondarewka.

At this place in 1860 fifty-eight cattle were vaccinated, nine were very sick, and three died. In most of these cases the matter was from five to nine months old. Re-vaccination of thirty-seven with fresh matter resulted in the sickness of five, of which three died.

In 1861 two hundred and fifty-seven were vaccinated inside of the institution, and two hundred and twenty outside. Of the former, only five were very sick, one hundred and seventy-seven were slightly ill, forty-two had some symptoms of the disease, and but one died. About half of those outside had the disease in a mild form. In one experiment two animals were vaccinated with slight effect, and afterwards took the disease naturally, notwithstanding vaccination, and both died.

At the arrival of the commissioners in 1863 two hundred and ninety-five had already been experimented upon by the Veterinary Surgeon Sergeeff, of which fifty-one had slight symptoms, one hundred and thirty-six had some cough and epiphora, thirty-three remained well, and seventy-five were not observed by the inoculator.

In three years Sergeeff vaccinated 1,028 animals, but used old vaccine matter, except in forty-five cases, of which seventeen took very sick and four died. The loss of contagious power in old matter is shown, further, by experiments of the commissioners upon twenty-one of Sergeeff's subjects with fresh matter, of which nine took sick, and four died. In another case, sixty-five head were tried with fresh vaccine matter, and thirty-nine were severely affected, and nineteen died, an unusual degree of fatality at Bondarewka. Matter from one to nine months old was tried upon fourteen animals, all escaping infection; but upon re-vaccination with fresh matter ten became sick and three died.

In one experiment two sheep were infected, and matter taken from them was used successfully in infecting six cattle; all were sick, and all but one died.

Vaccinated animals were frequently exposed to contagion with impunity, unless in cases in which the symptoms were comparatively mild.

In 1860, the whole number vaccinated at Salmysche was 64; 36 took sick after the first vaccination and 13 died; the other 28 were again vaccinated, of which 16 sickened and 7 died. Of the other 12, 10 were a third time vaccinated, and 4 a fourth time, with only one animal in each case slightly affected. Of the whole number, 64, 53 animals were infected, and 20 died. No milder effect was produced by vaccine matter "of the fifth generation." Of three animals vaccinated with matter of the second generation, two were infected and one died, while four animals died out of seven infected with matter of the fifth generation. In most of these experiments, matter over 25 days old had no effect.

In 1851 there were 151 vaccinated, of which 69 remained well, 39 had slight symptoms of disease, 43 had it severely, and 24 of them died. These 69 and 4 others slightly affected were re-vaccinated; 43 of which sickened and 17 died. Of 27 vaccinated the third and fourth time, 14 took sick and 8 died. In these experiments some that were slightly sick at the first vaccination died as the result of the second.

Some died after the third vaccination. Matter more than 9 days old was found inefficient.

In 1862, the third year, there were 51 deaths from 130 infections out of 167 vaccinations. It is a noticeable fact that of two breeds, the Baschkir and the Kirgis, less than a fourth of the latter became slightly sick, while about two-

thirds of the former experimented upon were infected, and more than one-third of the whole number died.

Of 466 cattle vaccinated by Veterinary Surgeon Kobuscheff at Salmysche, partly under supervision of Professors Jessen and Roynoff, from October 1, 1860, to July 5, 1863, 379 were infected, and 148 died. Thus about 80 per cent. of all took the infection, and more than 30 per cent. died.

In the experiments of the commissioners in 1863 are a few noteworthy features, In the fifth experiment, four animals that had been vaccinated without effect were left to take the contagion naturally; all became diseased, and three died. In another instance, several animals mildly affected by a former vaccination were vaccinated with fresh matter without effect. Again, in several cases, animals that had once had the disease were exposed to contagion with impunity.

Ten sheep were exposed to contagion, and five were vaccinated without effect, and they encountered subsequent exposure unharmed.

It will be seen that in one location, and that in which the greater number of fatal cases occurs, ten sheep were entirely unaffected, while at the other station two were vaccinated successfully and matter of extraordinary potency obtained for further experiments upon cattle.

CONCLUSIONS.

These results, more voluminous in the official documents, have been translated in the department, and a brief synopsis is here given, in the hope that some insight into this mysterious disease may be gained.

The following is a translation from the journal of the committee of their conclusions upon certain points, in view of the results of their experiments:

1. Is the rinderpest similar to the abdominal typhus of a human being, and to what degree?

The rinderpest must be considered as a contagious typhus, *sui generis*, as well in its clinical as anatomical pathological appearance, and is very similar to the abdominal typhus of a human being, but different from the same by its rapid course and the constant complication of catarrh in all the mucous membranes.

2. Is there any evidence that the rinderpest has its origin only or principally in the steppe countries of Russia, and that it was transferred thence to the other provinces of the country?

The rinderpest was brought from the steppe countries, but the place of its origin is not yet known. Therefore there is no positive evidence on hand to decide this question.

3. Are there any localities in Russia where the rinderpest began spontaneously?

Considering the reports on hand, there are places in the northern part of Russia where the rinderpest was developed by itself, but this assertion is difficult to prove, because no scientific examination has been made in these places concerning this question.

4. Is the rinderpest only contagious by direct contact with the infected animal or through miasmatic propagation?

The rinderpest is contagious as well by direct contact with the sickly or dead animal as by its exhalations.

5. Is the rinderpest alike contagious in all parts of Russia, and is the mortality the same everywhere?

The rinderpest is less contagious in the southern parts of Russia, and less fatal there in comparison with other regions of that country.

6. Does the season influence the contagion of the rinderpest?

The rinderpest is less contagious in summer and winter than in spring and fall.

7. Are certain breeds of cattle more disposed to rinderpest than others?

Not all breeds are alike disposed to contagion. The experiments at Salmysche

and at Bondarewka have shown that the Kirghis and south steppe breeds are less disposed to contagion than others.

8. Do all cattle of a herd take sick at the outbreak of the rinderpest?

This is the case sometimes in the northern part of Russia, but hardly ever in the southern part.

9. Is the vaccine matter of the rinderpest mitigated by successive generations of the disease?

Some cases have been very favorable to mitigation, but the latest experiments have shown that no mitigation of the effect of the vaccine matter took place even in the fifteenth generation. Therefore, in accordance with these results, mitigation of vaccine matter of the rinderpest cannot be expected. (Professor Jessen is against this conclusion.)

10. How long does vaccine matter of the rinderpest preserve its power of contagion, and has old vaccine matter the same effect as fresh matter?

The experiments made so far have not produced any positive results in determining the length of time that vaccine matter will preserve its vitality. In some cases the vaccine matter lost its effect in several days, but in others it maintained the same after eleven months. It is therefore remarked that the duration of the effect of vaccine matter depends considerably upon the manner of preservation. Experiments have shown, as far as the difference in effect between fresh and old vaccine matter is concerned, that vaccination with fresh vaccine matter generally causes a severe sickness, but vaccination with old vaccine matter a slight illness, and in some cases that it is without any effect.

11. Does vaccination of the rinderpest always preserve the animal from a repeated attack of the plague?

Animals which show strong characteristic marks of the rinderpest after vaccination certainly will not again contract the disease, but those which show light symptoms of the sickness after vaccination are not always safe from a repeated attack.

12. How long can an animal be considered safe after being vaccinated?

The results obtained do not render it certain how long this immunity will last; perhaps it will extend through the whole life of the animal, but our experiments only reach up to six years.

After reading the opinions of the president, and of the members, Jessen and Rawitsch, concerning the question what resolutions the committee should adopt in regard to vaccination in the rinderpest, the committee resolved:

1. To discontinue the vaccinating institutions at Bondarewka and Salmysche.

2. To publish a report of the vaccinations of the rinderpest in Russia in the Russian and French languages.

3. To request the government to make the necessary appropriations to the veterinary institutions of the government for making further investigations of the rinderpest and other epidemic diseases of animals by experiments, and by sending skilful veterinary surgeons to epidemic localities.

4. The government has no right to recommend the introduction of the vaccinations of the rinderpest as a preservative against the extension of the same in accordance with the established results of the experiments. Yet the committee permit the owners of cattle to establish vaccinating institutions in the steppe countries after having obtained the consent of adjoining neighbors, but in such places only as are remote from cattle roads, and upon condition that the institutions are superintended by skilful veterinary surgeons. They must also be erected in accordance with the plan adopted by the director of the Central Veterinary Institute.

5. All veterinary surgeons are obliged to make reports to the director of the Central Veterinary Institute of their experiments in vaccination of the rinderpest.

INSECTS INJURIOUS TO THE COTTON PLANT.

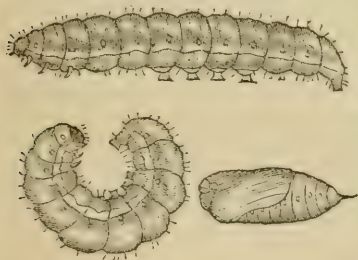
The applications to this department for information in regard to insects and diseases injurious to the cotton plant have made it necessary to devote a few pages of our monthly report to that subject. Inquiries come from southern planters as well as from northern men, who, totally unacquainted with the business, are going, or have gone, south to engage in cotton-planting.

In treating these subjects we shall employ plain and concise language, avoiding, as far as possible, the use of scientific terms, so that what is said may be intelligible to every farmer and planter. It is necessary that the farmer should not only be able to recognize his insect foes, but that he should know something of their history and habits, that he may the better devise means for their destruction, and understand whether, in the state of egg, caterpillar, chrysalis, or perfect insect, they may most readily be discovered and extirpated.

The first insect which attacks the young and tender cotton plant is the cut worm. These worms are merely the first or transition state of a moth or miller, (*Agrotis*,) the females of which deposit the eggs whence come the myriads of cut-worms so injurious to almost all garden and field crops. The most common example of this insect is that which destroys young cabbage plants.

The habits of cut-worms vary according to their species. Some excavate holes in the earth near the plants on which they feed, and hide themselves there during the heat of the day; others merely conceal themselves under loose clods of earth or stones, and come forth in the evening, or in dark, cloudy weather, to feed upon the plants. Sometimes they cut off the plants and drag them into their holes, where they may feed at leisure. They are never seen at their work in bright, sunny weather, but at night, by the aid of a lantern, they may often be found on the leaves or stalks and effectively destroyed.

The cut-worm is a thick, naked, greasy-looking caterpillar, from one and a half to two inches in length, of a grayish or brownish color, longitudinally striped with light and dark markings. Some of them have also a shining, horny, black spot on the top of the first ring. After living some weeks in the caterpillar form, and changing or casting their skins several times, they bury in the earth, where they assume the chrysalis state, and become incapable of locomotion or feeding.



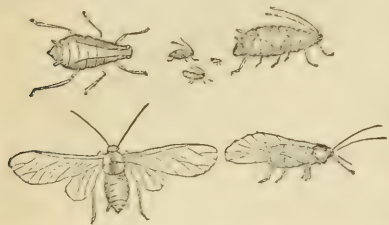
The shining, chestnut-brown cases, from three-quarters to an inch in length, so often turned up by the spade or plough, are merely cut-worms and other caterpillars in the chrysalis state, and, if kept on moist earth, will change into the moth. All these chrysalides should be destroyed, otherwise the moths produced from them will deposit eggs for another generation of worms. Birds are of the greatest utility in this case, as, following the plough, they devour the grubs and caterpillars brought to the surface.

In the summer months the chrysalides remain under ground but a short time. The late broods retain their chrysalis state through the winter, and do not appear as moths till spring vegetation is far enough advanced to furnish food for the young caterpillars.

The cut-worm moths (*Agrotis*) measure from one to two inches across the expanded wings. The ground color of the upper wings is ashy-brown or reddish-gray, indistinctly crossed and shaded with two or more transverse darker bands, or marbled with dark and light marks. The under wings are either

whitish or gray, shaded darker towards the edges. When the moth is at rest, with closed wings, upon the bark of trees or on fence-rails, it is difficult of discovery, its color so closely resembling that of the objects on which it rests; but as they are attracted by light, numbers of them may be caught in summer evenings flying around the candle or lamp.

In small gardens cut-worms may easily be destroyed by digging them from their holes near the plants injured, and crushing them; but as this would be impracticable on large plantations, we should encourage the birds, who are the true agents appointed by Nature to keep in check the insects injurious to our crops. Young pigs also eat the chrysalides, and as the moths are attracted by light, burning brush, during the season the females are depositing their eggs, might diminish their numbers.



After the cut-worm, the next insect attacking the cotton plant is the louse, (aphis,) which injures it at all stages of its growth, by puncturing the terminal shoots and young leaves with its piercer and extracting the sap. This constant drainage of sap enfeebles the plant, causes the leaves to curl, become distorted, turn yellow, and finally fall, eventually killing

the plant, if their ravages are not checked.

The most familiar type of this insect is the small, green louse, so common on rose-bushes and grape-vines. The natural history of the cotton louse is as follows: The female in late autumn deposits eggs which retain their vitality through the winter, and in the spring produce young lice, which at once attack the tender plant. During summer, however, the young produced are mostly females, and wingless, and are viviparous, bringing forth their progeny alive, and not by eggs as in the fall. These young, without connexion with males, also bring forth living young for several generations. This fact accounts for their excessive multiplication. In the fall winged males become more numerous, and, after pairing, the females deposit their eggs for the spring generations.

The honey-dew, found on leaves under places frequented by these lice, is a sweet, excrementitious matter ejected by them, and is greedily sought for by myriads of ants, which may be seen on the plants infested by lice, often gently tapping them with their antennae to induce them to emit the substance. Some authors are of the opinion that this honey-dew is discharged from two horns or tubercles on the upper side of the hind part of the abdomen, but De Geer and others state that it is discharged from the end of the abdomen, and that the tubes are probably breathing organs filled with air cells, and that the sap sucked from the plant is sooner changed into nourishment by coming in contact with these tubes.

These plant lice are about one-tenth of an inch in length, and generally of a greenish tint, but vary very much in color, many being almost black; indeed, they may be seen of all shades, from light-green to black, feeding together on the same stalk. It is probable, therefore, that the color is not owing to the plant upon which it feeds, but from some peculiar condition of the insect itself.

When old cotton plants are suffering from the attacks of the louse, many planters have the tops cut off and burned, thus destroying many. The common methods of fumigation—whale-oil soap, snuff, &c.—as used in greenhouses and small gardens, would be of no avail on an extensive cotton plantation; and until some more practicable means are devised the planter will have to rely principally upon other insects which feed upon the aphis and check their increase.

The principal insect enemy of the plant lice is the lady bug, (*coccinella*), which, in both larva and perfect state, is incessantly waging war upon them,

and devour immense numbers. Minute four-winged flies (*Braconidæ*) deposit their eggs in the body of the louse, producing grubs which devour the interior of the living insect, and afterwards gnaw through the dead skin and escape. These skins may readily be recognized by their brown, leathery appearance, and by the small round in the abdomen through which the fly has crept.

The larvæ of the lace-winged fly (*Chrysopa*) also feeds entirely upon plant lice, as does also the larvæ of syrphus, a small two-winged fly beautifully banded with black and yellow on the body. These will be more fully described when treating of insects beneficial to the farmer by destroying those injurious to vegetation.

EXPERIMENTAL FARM OF THE DEPARTMENT OF AGRICULTURE.

RESERVATION No. 2, comprising the area between Twelfth and Fourteenth streets, with the Smithsonian grounds on the east and the Washington monument grounds on the west, has been used by the Department of Agriculture, by authority of Congress, as an experimental farm.

Operations were commenced thereon to a limited extent last season. The soil being a heavy clay, time, labor, and fertilizers were essential in an attempt to reduce it to proper tilth and condition for successful experiment. The results in this direction have been satisfactory.

The following are the kinds and number of varieties of seeds sown or planted :

Cereals, &c.

Wheat	110	Sweet corn	5
Oats	18	Sorghum	4
Barley	13	Millet	4
Rye	17	Rice	4
Indian corn	13	Corn from Dutch West Indies ..	1

Herbage and forage plants.

Rye-grass, &c.	25	Lucerne	2
Clovers	9	Sanfoin	1

Leguminous plants.

Horse beans	4	Pole beans	10
Long pod or "Turkey" beans ..	13	Peas	70
Kidney or French beans	24	Vetches	3

Plants having tuberous and bulbous roots.

Potatoes	43	Parsnip	3
Beet	7	Kohl rabi	6
Mangel-Wurzel	6	Radish	7
Carrots	10		

Plants yielding fibre and oil.

Camelina Sativa.....	1	Cotton	2
----------------------	---	--------------	---

Seeds, &c., not enumerated above.

Onions.....	12	Squash and pumpkins.....	20
Leeks.....	2	Sweet potatoes.....	3
Cauliflower.....	6	Tobacco.....	1
Kale and sprouts.....	9	Osage orange.....	1
Spinach and cress.....	4	Seeds from Vienna.....	27
Tomatoes.....	5	Sunflower.....	2
Egg plants.....	3	Seeds from China.....	36
Watermelons.....	12	Cabbage.....	21
Cantaloupe melons.....	19	Lettuce.....	15
Cucumbers.....	5	Mustard.....	1

With very few exceptions the seeds received have been good, and have germinated well. Upwards of eighty varieties of wheat were sown in autumn, and most of them have well endured the vicissitudes of winter and spring. At this time the most of the varieties look remarkably well. Among the most prominent is Hallett's Pedigree wheat, a smooth-eared variety, long in the ear, very luxuriant, and seems to be very productive.

Blue cone, or Rivett's wheat, is another very fine wheat, long and healthy in the ear, well-strawed, and promises well.

There is a white smooth wheat from Port Mahon which has done remarkably well, being a fine, close, thick crop, very fair-sized ears, and has covered the ground much better than the red-bearded Mediterranean wheat sown at the same time, viz: the 29th October, 1865.

The best and earliest of the spring wheats sown is called Black Sea wheat, the seed of which came from California. It is a bearded wheat, and promises to yield well, being sown on the 12th of March, 1866, and came into ear on the 28th May—in eighty-one days.

There is a red Chili wheat sown on the same date, which was only about three days later in coming into ear, and promises very well. The bearded winter wheats generally have done remarkably well.

Some of the varieties of rye are especially worthy of attention, having very long ears and tall straw.

The oats and barley are scarcely far enough advanced to speak of with certainty, although the greater portion of them promise to be very heavy and productive.

Of peas there are some new varieties which have come into maturity almost simultaneously. Dickson's First and Best Early peas, Carter's First Crop peas, Wheeler's First Early peas, all bloomed about the 10th of May, and were ready for picking on the 28th of May; Sangster's No. 1 was only about two days behind, and is very productive. Of the four varieties, Dickson's First and Best are the earliest and most productive, having large well-filled pods, and being

an excellent bearer. Of dwarf varieties, Tom Thumb and McLean's Little Gem pea are the earliest. McLean's Little Gem is the most productive, and is one of the best varieties for a market garden that can be grown, the haulms being literally covered with large well-filled pods. It requires no stakes.

Saxton's Prolific Early Long Pod pea and Warner's Emperor are two first-rate second-early peas, and there are a good many of the new varieties well deserving the attention of those interested in pea culture. These varieties are all growing together and receiving the same treatment, and have interested many professional and amateur gardeners, who have acknowledged the experiment to be highly successful and instructive.

All the other seeds sown in the ground promise well.

CURRENT IMPORTS OF GREAT BRITAIN.

It is important to watch the current trade of this great consumer of the surplus agricultural products of the world; important both for the purpose of taking advantage of a temporary demand for some product of which our farmers have an excess, and for showing how poor a dependence a foreign market actually is, especially for our cereals and other heavy products.

The following are some of the imports into Great Britain for four months of the present year, as compared with those of the same period in 1865, embracing a few of the agricultural items in which farmers of the United States are interested.

	1865.	1866.
Cotton, raw—		
From United States .....cwts.	38, 029	1, 816, 879
Bahamas and Bermuda.....do..	137, 309	2, 602
Mexico.....do.....	106, 914	3, 145
Brazil.....do.....	161, 660	267, 530
Turkey.....do.....	87, 056	55, 737
Egypt.....do.....	600, 693	402, 495
British East Indies.....do..	635, 510	1, 068, 380
China.....do.....	142, 818	.....
Other countries.....do.....	115, 410	72, 666
Total.....	2, 025, 369	3, 689, 434

The supremacy of United States cotton is again shown in this exhibit. For four years past it has made a trifling figure in the British market. It here towers above the figure for India by almost one hundred per cent., and almost exactly equals the totals from all other localities. It is equivalent to 508,726 bales of four hundred pounds each. Half a million bales in four months, and seventy millions of dollars, are respectable figures in the trade with one foreign nation, even for the palmiest days of cotton-shipping from the ports of the United States.

The following items show the increase in the foreign demand for petroleum:

	1865.	1866.
Petroleum—		
From United States of America.....tuns..	1,808	6,403
British India.....do..	281	35
Other countries.....do..	1,042	24
Total.....	3,131	6,462

In butter, cheese, hams, and beef, there has been a slight falling off in the British demand, the rinderpest to the contrary notwithstanding:

	1865.	1866.
Provisions—		
Bacon and hams.....cwts.	232,342	225,856
Beef, salt.....do..	81,585	72,567
Pork, salt.....do..	58,390	80,662
Butter.....do..	292,398	270,945
Cheese.....do..	177,271	127,305
Eggs.....number.	107,821,440	140,188,560
Lard.....cwts.	40,228	106,406

The following are imports of wool for the same periods, showing a steady demand of the manufacturers, with little variation:

	1865.	1866.
Wool, sheep and lambs'—		
From Hanse Towns and other parts of Europe.....lbs.	5,515,158	7,830,229
British possessions in South Africa.....do.	6,686,288	5,339,209
British East Indies.....do.	3,256,532	2,516,552
Australia.....do.	21,562,695	21,934,222
Other countries.....do.	6,220,970	4,335,563
Total.....do.	43,241,643	41,955,775

The following imports of wheat and corn, showing a great disparity in favor of the present year, reveal the utter insignificance of the share allotted to the United States in the labor and profits of feeding the millions of hungry workmen of Great Britain :

	1865.	1866.
Wheat—		
From Russia .....cwt.	1,231,453	3,092,245
Prussia .....do..	382,113	409,222
Denmark .....do..	88,234	55,578
Schleswig Holstein and Lauenburg.....do..	52,949	39,520
Mecklenburg .....do..	97,195	82,827
Hanse Towns .....do..	29,309	87,425
France .....do..	176,907	1,740,207
Turkey, Wallachia, and Moldavia.....do..	169,312	218,788
United States.....do..	127,924	303,084
British North America.....do..	2,294	8,789
Other countries .....do..	214,831	1,145,723
Total.....do..	2,572,521	7,183,408
Wheat meal and flour—		
From Hanse Towns.....do..	85,392	78,127
France .....do..	767,622	2,011,452
United States .....do..	94,238	162,412
British North America .....do..	11,385	6,043
Other countries .....do..	26,739	86,374
Total .....do..	985,376	2,314,408
Indian corn or maize.....do..	1,316,017	4,074,576
Corn meal.....do..	2,191	7,072
Total .....do..	1,318,208	4,081,648

Here it is seen that Britain buys this season ten times as much wheat from Russia as from us, and from her hereditary enemy, France, nearly six times as much. A little more than four per cent. of her seven millions of hundred-weight are bought from the United States.

A single township in Wisconsin of thirty-six square miles, producing an average of 19 bushels per acre, would more than furnish this shipment of 303,084 hundred-weight. The shipment of flour has been still less—162,412 hundred-weight. It may not be amiss, in glancing at these paltry breadstuff figures, to turn to the following, showing three items only of the manufactures of wool imported into the United States from January 1, 1866, to April 30, 1866, from Great Britain :

	Quantities.		Declared value.	
	1865.	1866.	1865.	1866.
Cloths	991,128	2,593,191	£148,611	£42,456
Carpets	206,373	1,716,754	34,168	257,775
Worstedes	12,982,180	34,360,042	544,321	1,606,374
Total.....	24,179,681	38,669,987	727,100	2,316,605

These items do not include our whole importation of manufactured wools in four months, but they afford a significant intimation of the prospect of selling breadstuffs enough to pay for our purchases of wool. Eleven millions and a half of dollars for woollens and worsteds in four months!

Our total imports into New York for four months have been: 1864, \$90,457,081; 1865, \$52,280,622; 1866, \$111,847,932; towards paying which we have sent to Great Britain wheat and flour to the amount of nearly a million and a half of dollars in currency, or one cent on a dollar!

FARM STOCK OF THE UNITED STATES AND EUROPE.

A comparison of the farm stock of this country and European nations illustrates well the extent and munificence of our agricultural resources. A vast area of great fertility has enabled us, in the very brief period of our national history, to secure an ampler supply of meat than any other civilized nation in proportion to population.

There has been a loss, to be sure, since 1860, by the waste of the war, in everything except sheep. It is a loss, however, that stock-growing enterprise, stimulated by high prices, will soon repair. The increase of sheep to double their numbers in 1860 is an earnest of what can be accomplished by such an incitement. If the States reported in the following tables may be assumed fairly to represent this decrease for the whole country, including the southern States and their heavy losses on the one hand, and the steady increase of stock in the Pacific States on the other, the percentage of decrease since 1860 may be estimated as follows: horses, ten per cent.; mules, twenty per cent.; cattle, seven per cent.; swine, twenty-two per cent.

The following is the statement for 1860 for the whole country:

Horses.....	6, 249, 174
Mules.....	1, 151, 148
Cattle.....	25, 616, 019
Sheep.....	22, 471, 275
Swine.....	33, 512, 867

But there is another return of the assistant marshals in charge of the census, which includes stock not on the schedules of farmers, representing stock in market, in transitu, or in the hands of individuals not stock-growers. Add this, and the exhibit is as follows:

Horses.....	7, 434, 688
Mules.....	1, 317, 934
Cattle.....	28, 963, 028
Sheep.....	23, 977, 085
Swine.....	36, 980, 772

The following is an exhibit of the farm stock of the States named, as shown in the census returns of 1860, compared with the estimates of the statistical division of the Department of Agriculture for 1866:

States.	HORSES.		MULES.		CATTLE.	
	1860.	1866.	1860.	1866.	1860.	1866.
Maine	60,637	50,844	104	140	376,933	285,432
New Hampshire	41,101	34,749	10	9	264,467	189,148
Vermont	69,071	47,781	43	42	370,450	305,760
Massachusetts	47,786	48,509	108	119	279,914	244,173
Rhode Island	7,121	6,828	10	.....	39,105	40,998
Connecticut	33,276	38,009	82	105	241,907	252,236
New York	503,725	408,763	1,553	2,078	1,973,174	1,964,043
New Jersey	79,707	79,599	6,362	7,497	233,794	220,960
Pennsylvania	437,654	396,623	8,832	13,915	1,419,493	1,348,748
Maryland	93,406	83,334	9,829	10,558	253,241	210,463
Delaware	16,562	15,523	2,294	2,280	57,721	49,358
Kentucky	355,704	209,136	117,634	59,752	836,059	546,876
Ohio	625,346	520,498	7,194	7,539	1,634,740	1,375,596
Michigan	136,917	171,956	330	699	479,844	515,895
Indiana	520,677	377,215	28,893	21,878	1,069,384	925,727
Illinois	563,736	574,205	38,539	50,899	1,583,813	1,446,635
Missouri	361,874	235,375	80,941	52,127	1,168,984	698,544
Wisconsin	116,180	174,608	1,030	1,956	521,860	660,088
Iowa	175,088	342,136	5,734	14,036	540,088	884,432
Minnesota	17,065	39,500	377	789	119,257	222,297
Kansas	20,344	32,469	1,496	2,499	93,455	202,303
Nebraska Territory	4,449	11,359	469	1,243	37,197	85,251
Total	4,267,426	3,899,019	311,864	250,151	13,599,880	12,674,968

States.	SHEEP.		SWINE.	
	1860.	1866.	1860.	1866.
Maine	452,472	1,041,724	54,783	35,355
New Hampshire	310,534	677,571	51,935	31,333
Vermont	752,201	1,377,296	52,912	32,908
Massachusetts	114,829	210,036	73,948	45,549
Rhode Island	32,624	35,884	17,478	11,690
Connecticut	117,107	188,308	75,120	52,356
New York	2,617,855	5,117,148	910,178	671,984
New Jersey	135,228	181,096	236,089	192,630
Pennsylvania	1,631,540	3,230,440	1,031,266	892,032
Maryland	155,765	262,576	357,756	368,396
Delaware	18,857	17,500	47,848	32,098
Kentucky	938,990	864,068	2,330,595	1,794,556
Ohio	3,546,767	6,568,052	2,251,653	1,838,481
Michigan	1,271,743	3,473,075	372,386	351,017
Indiana	991,175	2,783,367	3,099,110	2,261,780
Illinois	769,135	2,446,081	2,502,308	1,976,208
Missouri	937,445	830,999	2,354,425	988,857
Wisconsin	332,954	1,260,900	334,055	357,668
Iowa	259,041	1,950,752	934,820	1,423,568
Minnesota	13,044	90,496	101,371	127,701
Kansas	17,569	82,662	138,224	95,429
Nebraska Territory	2,355	15,766	25,369	35,280
Total	15,419,230	32,695,797	17,383,629	13,616,876

The following is a table showing the results of the official census recently (and for the first time) taken in Great Britain. As in our own census, the figures are more likely to be too small than too large, on account of the lurking suspicion (which also affects the accuracy of our own census to some extent) that taxation is at the bottom of all inquisition into the farmers' affairs. The English papers stoutly affirm the existence of such a feeling in the present case:

Divisions of United Kingdom.	Date of return.	CATTLE.		
		Cows.	Other cattle.	Total.
England	March 5, 1866	1,290,529	2,016,505	3,307,034
Wales	do	222,546	318,855	541,401
Scotland	do	370,457	566,954	937,411
Ireland	Year 1865	1,386,176	2,107,238	3,493,414
Isle of Man	March 5, 1866	7,755	10,932	18,687
Channel Islands:				
Jersey	do	5,815	6,222	12,037
Guernsey, &c.	do	3,030	3,946	6,976
Total for United Kingdom		3,286,308	5,030,652	8,316,960

The following is a table showing the numbers of cattle, sheep and swine, at the dates mentioned, in the several nationalities of Europe:

Countries.	Date of returns of live stock.	Population according to latest returns.	CATTLE.		
			Cows.	Other cattle.	Total.
United Kingdom	1865-'66	29,070,932	3,286,308	5,030,652	8,316,960
Russia	1859-'63	74,139,394	.....	.....	25,444,000
Denmark, Schleswig, and Holstein.	1861	2,646,051	1,172,895	626,252	1,799,147
Sweden	1860	3,859,728	1,112,944	803,714	1,916,658
Prussia	1862	18,491,220	3,382,703	2,251,797	5,634,500
Hanover, Saxony, Wurtemberg, and Grand Duchies.	1852 to } 1863. }	9,395,738	1,728,224	1,273,029	4,170,275
Holland	1864	3,618,459	943,214	390,673	1,333,887
Belgium	1856	4,529,461	.....	.....	1,257,649
France	1862	37,386,313	5,781,465	8,415,895	14,197,360
Spain	1865	15,658,531	.....	.....	2,904,598
Austria	1863	36,267,648	6,353,086	7,904,030	14,257,116
Bavaria	1863	4,807,440	1,530,626	1,655,356	3,185,882

Countries.	Date of returns.	Sheep.	Swine.
United Kingdom	1865-'66..	25, 795, 708	3, 802, 399
Russia	1859-'63..	45, 130, 800	10, 097, 000
Denmark, Schleswig, and Holstein.....	1861.....	2, 279, 513	471, 193
Sweden	1860.....	1, 644, 156	457, 981
Prussia	1862.....	17, 428, 017	2, 709, 709
Hanover, Saxony, Wurtemberg, and Grand Duchies.....	1861 to 1864. }	5, 323, 223	1, 855, 114
Holland.....	1864.....	930, 136	294, 636
Belgium	1856.....	583, 485	458, 418
France.....	1862.....	33, 281, 592	5, 246, 403
Spain	1865.....	22, 054, 967	4, 264, 817
Austria	1863.....	16, 964, 236	8, 151, 608
Bavaria	1863.....	2, 058, 638	926, 522

In an analysis of these tables it appears that the United States led all other nations in 1860 in numbers of cattle and swine, as doubtless, at the present time, it leads in sheep likewise. As compared with population, we had 1.5 people to each sheep, 1.1 to each head of cattle, and less than one to each head of swine. We have now less people than sheep.

In Europe, according to these tables, the comparison with population is as follows: Denmark, 1.4 people to each head of cattle; Bavaria, 1.5; Sweden, 2; Hanover, 2.2; Austria, 2.5; France, 2.6; Holland, 2.7; Russia, 2.9; Prussia, 3.2; Great Britain, 3.5; Belgium, 3.6; Spain, 5.3.

Spain had less than a unit of population to each head of sheep; Prussia, 1; Great Britain, 1.1; Denmark, 1.1; France, 1.1; Russia, 1.6; Hanover, 1.7; Austria, 2.1; Sweden, 2.3; Bavaria, 2.3; Holland, 3.8; Belgium, 7.9.

The contrast between this country and those of Europe in the supply of swine is remarkable. Spain, with a larger population than any other European state, had only one-fourth of our supply in proportion to population. Spain had 3.6 people to each head of swine; Austria, 4.4; Hanover, 5; Bavaria, 5.1; Denmark, 5.6; Prussia, 6.8; France, 7.1; Russia, 7.3; Great Britain, 7.6; Sweden, 8.3; Belgium, 9.8; Holland, 12.2.

AVERAGE VALUE OF CROPS PER ACRE.

The following tables are deductions from data furnished by the corps of statistical observers who have reported to this department during the last four years. A comparison of figures for the different States, furnished by independent parties who could have no collusion with each other, will show a similarity in circumstances that are similar, and marked differences where one would naturally expect them from superior culture or proximity to markets, that furnish indubitable evidences of approximate correctness. And yet they are not assumed to be entirely accurate, nor yet so accurate as they may be made in the future.

It will excite surprise in the superficial observer, but not in the thinking mind, that "sterile New England" should show so large a value of products per acre. This value results primarily from the markets created by manufactures. They also furnish the means and the inducement to artificial fertilization, and an encouragement to a greater expenditure of labor. It should be remembered that an acre of corn in New England means more than one hundred and sixty rods of soil slightly scratched; it means also manure and hard

work. As to actual profit, in proportion to labor and money expended, it may, or it may not, equal a similar expenditure in the west.

These tables teach, not only the value of *home markets*, but show how excessive charges for transportation are eating out the substance of the west, reducing home prices and farmers' profits, and consigning corn to the grate or furnace. It should teach the west to diversify its industry, and divert labor from wheat-growing to industries which make light products. It should teach the west to consume its own wheat and corn, as far as possible, and save to its soil the elements of its fertility that are now wasted in the rivers of the east and of Europe.

The cost of transportation is in part the cause of the following receding scale of values, from east to west :

States.	Value of corn.	Value of wheat.
Vermont	\$48 80	\$29 03
New Jersey	37 30	28 25
Maryland	24 19	21 73
Ohio	20 20	16 25
Indiana	17 96	16 30
Illinois	14 47	14 36
Iowa	19 59	12 85

Nor is the difference due to yield, notwithstanding the fertilizers and the labor employed in the east, as is seen :

States.	Bushels corn per acre.	Bushels wheat per acre.
Vermont	37.64	15.07
New Jersey	36.25	15.6
Maryland	25.9	11.5
Ohio	32.91	12.19
Indiana	33.85	13.1
Illinois	32.56	12.83
Iowa	36.06	13.7

These differences scarcely exist as to barley, for which the market is much the same in different sections. It is, moreover, a minor crop.

Average value of farm products per acre for the States named from 1862 to 1865, inclusive.

Articles.	MAINE.				NEW HAMPSHIRE.			
	1862.	1863.	1864.	1865.	1862.	1863.	1864.	1865.
Indian corn.....	\$31 96	\$36 27	\$56 70	\$41 14	\$34 58	\$35 10	\$61 72	\$40 10
Wheat	24 80	21 12	27 18	28 80	22 95	26 88	33 50	39 74
Rye	17 64	15 60	24 54	19 36	16 38	20 64	29 58	20 56
Oats	15 12	16 75	22 22	15 86	11 56	16 74	22 08	20 06
Barley	22 04	24 84	26 10	19 20	20 54	24 84	30 42	23 63
Buckwheat	18 20	12 76	24 32	18 45	13 80	23 80	25 31	16 53
Potatoes.....	53 55	50 85	95 81	78 95	39 24	51 52	98 40	81 94
Tobacco .....	.....	.....	.....	165 00	.....	200 00	246 25	176 00
Hay	11 11	11 44	18 37	11 81	13 80	14 00	21 00	14 70

	VERMONT.				MASSACHUSETTS.			
	1862.	1863.	1864.	1865.	1862.	1863.	1864.	1865.
Corn	\$30 45	\$38 28	\$76 05	\$50 42	\$31 45	\$39 60	\$64 26	\$36 83
Wheat	21 60	18 96	36 05	39 50	27 37	27 16	38 56	38 99
Rye	12 90	17 55	28 57	20 50	13 75	20 64	30 00	19 10
Oats	14 44	19 20	28 71	20 87	17 50	20 80	27 35	18 72
Barley	18 72	27 82	35 42	31 26	22 62	22 88	35 60	23 60
Buckwheat	12 69	14 64	19 99	19 50	15 12	16 53	20 31	18 83
Potatoes.....	33 75	48 50	87 75	68 88	55 46	72 08	123 22	76 99
Tobacco .....	.....	160 00	.....	150 00	160 16	318 00	412 50	270 00
Hay	8 80	8 59	17 95	13 80	14 95	23 44	29 00	28 00

	RHODE ISLAND.				CONNECTICUT.			
	1862.	1863.	1864.	1865.	1862.	1863.	1864.	1865.
Corn	\$31 08	\$40 95	\$63 22	\$38 58	\$26 88	\$39 60	\$56 11	\$38 28
Wheat	30 00	24 00	37 50	.....	24 48	25 05	39 19	41 56
Rye	18 06	20 40	34 00	22 05	12 04	17 36	28 65	18 37
Oats	21 60	19 60	32 58	21 94	15 84	20 88	30 00	23 82
Barley	28 50	27 14	41 00	36 43	21 25	26 50	42 54	32 20
Buckwheat	15 30	18 00	.....	.....	11 20	13 02	22 41	17 47
Potatoes.....	69 44	73 15	124 31	88 68	48 60	71 69	108 73	92 45
Tobacco .....	.....	287 50	405 00	300 00	182 00	312 50	362 50	405 00
Hay	19 00	25 00	31 50	25 31	12 60	18 75	32 40	29 37

	NEW YORK.				NEW JERSEY.			
	1862.	1863.	1864.	1865.	1862.	1863.	1864.	1865.
Corn	\$23 10	\$33 00	\$49 28	\$22 80	\$25 16	\$34 00	\$53 87	\$36 19
Wheat	22 50	19 46	30 50	31 96	24 70	24 48	34 95	28 86
Rye	14 44	14 98	24 72	15 50	14 04	17 10	22 88	14 04
Oats	16 10	19 60	21 62	17 73	15 18	17 52	29 62	16 48
Barley	30 74	24 78	32 69	22 54	18 75	23 54	35 70	24 64
Buckwheat	11 88	11 68	20 58	17 10	16 33	14 40	24 48	20 83
Potatoes.....	47 50	42 00	76 12	66 34	55 00	46 50	93 60	78 73
Tobacco	120 00	233 40	212 93	152 74	.....	216 00	.....	200 00
Hay	14 00	16 25	25 48	17 26	15 00	28 50	41 98	24 30

Average value of farm products per acre, &c.—Continued.

Articles.	PENNSYLVANIA.				MARYLAND.			
	1862.	1863.	1864.	1865.	1862.	1863.	1864.	1865.
Corn	\$20 16	\$31 02	\$45 64	\$32 00	\$17 36	\$20 93	\$34 83	\$23 66
Wheat	21 96	19 88	28 80	25 09	19 46	18 04	29 90	19 52
Rye	12 96	14 04	24 25	17 57	12 80	12 96	22 96	8 79
Oats	13 69	17 25	25 45	16 32	10 40	9 45	19 14	10 50
Barley	24 65	26 62	30 78	21 58	27 84	24 00	47 65	26 81
Buckwheat	14 40	12 45	21 87	17 00	18 27	18 69	30 97	21 53
Potatoes	57 00	60 14	98 19	73 87	62 37	50 41	66 00	55 02
Tobacco	156 24	324 80	197 67	89 59	102 63	65 00	102 50	79 41
Hay	16 00	19 00	31 91	17 97	21 00	27 50	36 00	24 64

	DELAWARE.				KENTUCKY.			
Corn	\$10 40	\$25 00	\$31 51	\$12 37	.....	.....	\$27 55	\$14 73
Wheat	16 80	28 80	30 36	15 00	.....	.....	20 14	12 36
Rye	10 80	10 00	24 54	.....	.....	.....	18 16	8 40
Oats	8 75	14 00	19 20	5 64	.....	.....	19 22	11 19
Barley	42 50	24 00	50 63	6 65	.....	.....	37 14	23 01
Buckwheat	15 00	10 00	20 00	10 50	.....	.....	27 96	29 74
Potatoes	56 00	60 00	165 00	87 18	.....	.....	89 01	53 49
Tobacco	36 00	54 00	.....	60 00	.....	.....	92 40	88 38
Hay	19 25	25 00	45 00	21 25	.....	.....	26 88	16 94

	OHIO.				MICHIGAN.			
Corn	\$14 52	\$17 76	\$30 08	\$18 43	\$17 22	\$20 72	\$30 66	\$23 14
Wheat	15 36	14 69	19 78	15 17	18 00	17 03	23 52	25 85
Rye	9 60	12 32	16 19	9 09	9 72	11 57	16 70	12 03
Oats	4 95	13 92	20 84	10 82	8 06	14 85	19 68	15 10
Barley	19 75	25 30	36 92	20 31	21 00	22 89	30 03	21 87
Buckwheat	12 19	9 57	18 70	14 61	9 89	9 70	14 22	17 60
Potatoes	40 80	54 72	87 60	76 22	41 54	48 96	64 38	54 53
Tobacco	103 40	105 98	117 52	67 70	130 00	198 03	200 00	201 50
Hay	10 50	16 75	25 77	13 33	12 00	14 06	21 48	21 90

	INDIANA.				ILLINOIS.			
Corn	\$12 18	\$16 32	\$27 70	\$15 63	\$9 20	\$13 64	\$24 75	\$10 32
Wheat	14 08	15 12	24 50	11 51	10 64	12 60	22 21	11 99
Rye	10 60	14 88	18 34	9 80	8 60	11 84	15 22	8 05
Oats	4 05	13 92	19 18	10 62	4 80	13 44	19 01	8 40
Barley	25 49	28 57	37 44	21 86	21 60	20 90	30 14	11 91
Buckwheat	12 50	13 76	23 00	15 78	9 89	7 81	18 70	15 71
Potatoes	44 80	47 12	79 60	65 52	40 00	51 80	93 44	55 28
Tobacco	133 08	92 28	119 84	65 01	154 14	84 92	146 42	81 09
Hay	12 18	18 12	26 72	15 67	13 60	17 25	23 00	13 95

Average value of farm products per acre, &c.—Continued.

Articles.	MISSOURI.				WISCONSIN.			
	1862.	1863.	1864.	1865.	1862.	1863.	1864.	1865.
Corn	\$9 88	\$15 08	\$26 00	\$20 28	\$16 00	\$17 01	\$29 14	\$19 09
Wheat	13 09	16 32	24 85	20 73	13 26	12 88	14 09	18 31
Rye	7 65	10 88	17 44	14 95	8 82	11 10	13 37	10 87
Oats	7 56	14 25	18 05	12 08	14 28	14 04	16 50	11 38
Barley	21 06	22 54	33 97	27 26	23 43	21 12	19 74	18 73
Buckwheat	12 00	10 08	16 81	18 24	11 44	7 60	14 64	13 80
Potatoes	36 49	60 75	68 38	76 23	48 32	37 83	64 90	51 00
Tobacco	120 00	86 25	76 27	125 72	144 00	134 29	147 00	156 00
Hay	12 00	17 50	25 89	21 78	11 80	13 50	14 86	15 21

	IOWA.				MINNESOTA.			
Corn	\$30 02	\$10 80	\$24 78	\$12 78	\$17 10	\$14 03	\$31 02	\$19 57
Wheat	9 66	10 64	16 48	14 63	11 20	9 80	15 15	16 48
Rye	9 20	10 62	13 80	10 81	6 72	10 80	13 19	14 52
Oats	8 58	10 14	16 96	10 00	13 33	17 28	21 13	16 18
Barley	15 66	20 16	25 25	14 20	16 66	19 20	21 83	15 95
Buckwheat	10 73	14 88	19 95	15 31	10 92	10 79	20 97	18 40
Potatoes	46 08	37 31	84 51	51 74	43 75	45 32	75 60	68 95
Tobacco	113 28	134 10	239 25	172 24	125 40	84 00	160 00	200 00
Hay	16 00	12 25	15 45	12 87	12 00	9 00	14 04	14 60

	KANSAS.				NEBRASKA TERRITORY.			
Corn	\$12 80	\$13 20	\$34 25	\$21 82	-----	-----	\$28 21	\$27 43
Wheat	15 54	14 08	30 15	26 90	-----	-----	21 00	26 82
Rye	14 84	12 40	21 25	25 07	-----	-----	20 64	18 00
Oats	10 23	11 40	27 98	22 60	-----	-----	19 13	20 63
Barley	24 05	21 50	29 21	31 39	-----	-----	24 50	31 03
Buckwheat	15 30	13 23	18 75	38 50	-----	-----	-----	36 66
Potatoes	52 92	47 94	115 24	115 43	-----	-----	107 47	89 43
Tobacco	205 00	176 00	75 94	133 25	-----	-----	-----	102 50
Hay	10 20	10 00	21 67	16 00	-----	-----	9 99	11 28

Average cash value of farm products per acre for four years, from 1862 to 1865, inclusive.

States.	Corn.	Wheat.	Rye.	Oats.	Barley.	Buckwheat.	Potatoes.	Tobacco.	Hay.
Maine	\$41 52	\$25 48	\$19 28	\$17 49	\$23 04	\$18 43	\$63 79	\$163 00	\$13 18
New Hampshire	42 87	30 77	21 79	17 61	24 85	19 86	67 77	200 00	15 87
Vermont	48 80	29 03	19 88	20 80	28 36	16 70	59 72	155 00	12 28
Massachusetts	43 03	33 02	20 87	21 09	26 17	17 70	81 94	200 16	23 85
Rhode Island	43 46	30 87	23 63	23 93	33 27	18 00	88 89	293 62	25 20
Connecticut	40 22	32 57	19 10	22 63	30 62	16 02	80 37	315 50	23 28
New York	32 04	26 10	17 41	18 76	27 00	15 31	57 90	179 77	18 25
New Jersey	37 30	28 25	17 01	19 70	25 66	19 01	68 46	208 00	27 44
Pennsylvania	32 20	23 93	17 20	18 18	25 91	16 43	72 30	192 07	21 22
Maryland	24 19	21 73	14 38	12 37	31 57	22 36	58 45	87 38	27 28
Delaware	19 82	22 74	15 11	11 90	30 94	13 87	92 04	50 00	27 62
Kentucky *	21 14	16 25	13 28	15 20	30 07	28 85	71 25	90 39	21 91
Ohio	20 20	16 25	11 80	12 63	25 57	13 77	64 83	98 65	16 59
Michigan	22 93	21 10	12 50	14 42	23 95	12 85	52 35	182 38	17 36
Indiana	17 96	16 30	13 40	11 94	28 34	16 26	59 26	102 55	18 17
Illinois	14 47	14 36	10 93	11 41	21 14	13 03	60 13	116 64	16 95
Missouri	17 81	18 75	12 73	12 98	26 21	14 28	60 46	102 06	19 29
Wisconsin	20 31	14 63	11 04	14 05	20 75	11 87	50 51	145 32	13 84
Iowa	19 59	12 85	11 11	11 42	18 82	15 22	54 91	164 72	14 14
Minnesota	20 43	13 16	11 31	16 98	18 41	15 27	58 40	142 35	12 41
Kansas	20 52	21 67	18 39	18 05	26 54	21 44	82 88	147 55	14 47
Nebraska Territory *	27 82	23 91	19 32	19 88	27 76	36 66	98 45	102 50	10 63

* Average of 1864-'65. No returns for 1862-'63.

Average yield of farm products per acre for four years, from 1862 to 1865, inclusive.

States.	Corn.	Wheat.	Rye.	Oats.	Barley.	Buckwheat.	Potatoes.	Tobacco.	Hay.
	Bush.	Bush.	Bush.	Bush.	Bush.	Bush.	Bush.	Lbs.	Lbs.
Maine	31.5	12.86	14.37	27.25	22.50	22.37	136.87	750.†	1868.
New Hampshire	32.62	14.19	16.12	28.62	22.06	18.85	126.37	892.†	2075.
Vermont	37.64	15.07	15.3	35.	25.18	24.05	139.62	775.‖	2150.
Massachusetts	33.7	16.15	15.18	28.32	21.87	18.71	115.31	1298.5	2408.
Rhode Island	33.44	17.†	18.25	34.62	26.12	17.5	113.5	1166.6†	2219.
Connecticut	31.8	16.5	14.25	31.94	24.25	15.7	116.8	1337.5	2375.
New York	30.33	15.08	15.7	30.1	22.7	18.5	107.8	1078.5	2577.
New Jersey	36.25	15.6	15.	30.47	22.25	17.9	88.05	1100.‖	3044.
Pennsylvania	34.6	14.05	14.7	31.3	22.8	18.5	99.14	1070.4	2750.
Maryland	25.9	11.5	16.06	23.5	27.79	23.2	74.9	778.9	2891.
Delaware	20.46	13.13	14.55	20.25	19.75	17.62	106.1	366.66	2750.
Kentucky *	31.25	8.75	11.2	24.29	22.22	20.08	70.05	353.25	2733.33
Ohio	32.91	12.19	13.69	24.9	23.34	16.75	82.75	827.9	2733.33
Michigan	32.96	14.66	14.44	29.19	22.7	16.25	113.6	1066.5	2331.
Indiana	33.85	13.1	15.55	23.65	24.55	19.4	84.5	843.4	3078.
Illinois	32.56	12.83	16.83	27.5	25.4	17.1	92.06	862.75	3100.
Missouri	33.2	14.99	16.58	26.15	24.06	18.8	88.3	813.	2964.
Wisconsin	34.9	14.3	15.62	34.29	23.69	18.1	126.9	1128.25	2509.
Iowa	36.06	13.7	18.53	33.8	24.8	20.29	107.8	882.3	3550.
Minnesota	34.75	16.98	19.63	35.06	23.75	19.9	146.75	910.	3350.
Kansas	37.54	16.8	22.	31.5	28.3	22.8	93.	778.25	3683.
Nebraska Territory *	37.5	16.	17.	16.66	23.27	26.66	95.16	587.5	3333.

* For 1864-'65. † Average of 1863-'64-'65. ‡ Average of 1865. ‖ Average of 1863, '65.

CONDITION OF THE CROPS.

Wheat.—The general anxiety relative to the wheat crop has stimulated to careful and accurate observation the thousands of observers who report to this department. At the date of their returns, June 1, the future could not with certainty be predicted, however accurate their estimate of the present appearance of the crop. Their returns have been more complete than ever before, and may evidently be relied upon as the most accurate ever given.

If the dictum of a traveller making observations "on the wing" through several States is deferred to and quoted in leading journals, how much more reliance should be placed upon a corps of intelligent *residents* in each county, who notice and report carefully and frequently the changing conditions and varying vicissitudes of the crops.

In view of the results given in the following tables, and taking into the calculation the relative proportion of the whole crop for each of the States, the average prospect for the ripening wheat crop is seventy per cent. of an average crop.

This would indicate a serious loss. It would, however, leave an aggregate quantity which, with that produced in the southern and Pacific States, and the remnant of the old crop on hand, would be ample for the actual wants of the country. If further disaster should not yet overtake the crop, there need be no fears for a sufficiency of breadstuff supplies.

The injury has been mainly attributed to winter-killing. In addition, the depredations of the fly have been complained of in many places, and injury has also resulted from dry weather early in the spring.

In the general expression of loss and anxiety, such statements as the following, of which many were received, are gratifying.

The secretary of the Montgomery County (Illinois) Agricultural Society says: "The appearance of winter wheat was never better at this season of the year, and if it ripens off without rust or other injury, will be the best crop of wheat in this section of the country for many years."

Allen county, Kansas.—"Our prospect for winter wheat is better than ever known in this section."

Woodson county, Kansas.—"Our winter wheat makes the best appearance that it ever did at this season, and bids fair to be heavy."

Union county, Ohio.—After reporting the prospect of one-fifth of a crop, our correspondent says: "A few fields of good wheat are seen, but they are invariably protected by timber on the northern and western sides."

Ohio and Indiana appear to have suffered most from winter-killing. A prospect for 34 per cent. of a crop of winter wheat in Indiana is sufficiently discouraging. An increase, by four-tenths, of the average breadth of spring wheat will afford some relief, and ought to bring up the total average to half a crop. Ohio is reported at four-tenths for winter wheat, with two and a half tenths more of spring wheat than usual. A very little better prospect for winter wheat than Indiana, and not quite so large an increase of spring wheat, will give about the same result—half an average crop.

Illinois, now our greatest wheat-growing State, promises seven-tenths of a crop. As the spring wheat, which is the main dependence for a crop in portions of the State, is nearly as good as usual, at least three-fourths of a crop of wheat should be expected in this State.

In Wisconsin the winter wheat is reported at six and one-third tenths, with one and three-fourths more spring wheat than usual, which should secure three-fourths of an average crop for this State.

In Iowa the appearance of winter wheat is nine-tenths, spring ten and three-fourth tenths, and breadth of the latter sown twelve and one-eighth tenths. This should give at least an average crop for Iowa.

In Pennsylvania the wheat crop is eight-tenths.

In New York, winter wheat eight and four-ninths tenths; spring wheat nine and three-fifths tenths, or about eight-tenths for the crop as a whole.

In Missouri a prospect for a full crop of winter wheat is reported, with one-half tenth, or five per cent. more than the usual breadth of spring wheat, looking nearly as well as usual at this season of the year.

Kentucky is reported at five and two-thirds tenths.

Michigan, seven and a half tenths.

Minnesota, ten and five-ninths tenths for winter wheat, and nine-tenths for spring wheat.

Kansas, fourteen and one-third tenths for winter and twelve-tenths for spring wheat.

In New England, except in Massachusetts, a full breadth of spring wheat is sown, looking better than an average in Maine, and a fraction lower than an average in the other States.

Winter wheat, where it is grown at all, has suffered to the extent of one and two-tenths, and in Vermont and Connecticut three-tenths.

New Jersey is placed in the same list with New York and Pennsylvania, at eight-tenths; and Delaware, Maryland, and West Virginia will each average about six-tenths.

Winter rye.—The winter rye shared the fate of the wheat, but in a less degree. The injury was greatest in Ohio, West Virginia, Maryland, Kentucky, Michigan, and Indiana. Delaware, Connecticut, Massachusetts, and Vermont come next in order. Kansas, Nebraska, and Minnesota are the only States above the average, while Missouri and New Hampshire are reported at ten-tenths.

Winter barley.—Ohio promises little more than half a crop; Vermont six-tenths, and Connecticut, Iowa, and Illinois, eight-tenths; New Hampshire and Massachusetts, ten-tenths; Kansas, thirteen-tenths; Nebraska, fifteen-tenths. The average will be about eight and a half tenths. The spring barley, while varying in promise in different States, will average ten-tenths.

Oats.—The acreage of this crop is larger than usual in nearly all the States. The appearance of the crop is, in Indiana, eight-tenths; in Illinois, eight and a half tenths; in Ohio and Michigan, nine-tenths; in other States, ranging from nine to thirteen tenths; Rhode Island, Missouri, Iowa, Kansas, and Nebraska, being above the average. The crop indicates an average yield.

Clover.—More clover was sown than usual, and is reported in full average condition. In Delaware and Missouri its appearance is worst, though the increased acreage will make up the deficiency. Maryland, New Jersey, Massachusetts, New Hampshire, Illinois, and Kansas fall a little below the average; Maine, thirteen and one-sixth tenths.

Pastures.—Returns have been unfavorable to the dairy interest. A very general falling off is observed in the condition of pastures, except in the States beyond the Mississippi.

Maple sugar and molasses.—This product will average nine and three-quarter tenths. New Hampshire, Massachusetts, and Delaware ten-tenths. The other New England States nine and a quarter tenths. The middle and western States seven to nine tenths.

Sheep.—Sheep took the field this spring in better condition than usual. In some places neglect, and consequent disease and death, are reported, arising from depreciation in prices of wool.

Fruit.—A medium crop of apples is indicated, though there is variation in the appearance in different localities. In New England and the extreme west the prospect is better than usual; in the central States worse. Peaches have suffered from winter-killing very generally. In Ohio scarcely a third of a crop is expected; in New Jersey less than half a crop; in Delaware and Maryland about six-tenths.

Pears.—Pears will not prove an average crop.

Table showing the condition of the crops, &c., on the 1st day of June, 1866.

States.	WINTER WHEAT.		WINTER RYE.		WINTER BARLEY.		SPRING WHEAT.	
	Average appearance of winter wheat on June 1, 1866.	Amount of injury from winter-killing or other causes.	Average appearance of winter rye on June 1, 1866.	Amount of injury from winter-killing or other causes.	Average appearance of winter barley on June 1, 1866.	Amount of injury from winter-killing or other causes.	Average amount of spring wheat sown as compared with 1865.	Average appearance of same on June 1, 1865.
Maine.....	8 $\frac{3}{8}$	12 $\frac{3}{8}$	9 $\frac{3}{8}$	11 $\frac{5}{8}$	-----	-----	10	10 $\frac{1}{2}$
New Hampshire...	9 $\frac{1}{6}$	10	10	10	10	10	10	9 $\frac{1}{2}$
Vermont.....	7	11 $\frac{1}{5}$	8 $\frac{1}{2}$	10 $\frac{1}{2}$	6	12	10 $\frac{5}{8}$	9 $\frac{1}{8}$
Massachusetts....	9	12 $\frac{1}{2}$	8 $\frac{1}{2}$	11	10	10	8 $\frac{3}{8}$	9 $\frac{3}{8}$
Rhode Island.....	-----	-----	9	10	-----	-----	10	-----
Connecticut.....	7	12	8 $\frac{1}{2}$	11	8	13	10	9 $\frac{1}{8}$
New York.....	8 $\frac{1}{3}$	11 $\frac{1}{4}$	8 $\frac{4}{9}$	10 $\frac{1}{2}$	8 $\frac{3}{11}$	11 $\frac{3}{11}$	10	9 $\frac{3}{8}$
New Jersey.....	8 $\frac{1}{8}$	12	9	11	10	10	10	9
Pennsylvania.....	8 $\frac{1}{10}$	12	9	11	9	11	10	9 $\frac{1}{4}$
Maryland.....	5 $\frac{1}{2}$	14 $\frac{1}{2}$	7 $\frac{2}{3}$	12	-----	-----	-----	-----
Delaware.....	6 $\frac{2}{3}$	11	8 $\frac{1}{2}$	11 $\frac{1}{2}$	-----	-----	10	5
Kentucky.....	5 $\frac{2}{3}$	14	8	11 $\frac{1}{4}$	8 $\frac{2}{3}$	8 $\frac{3}{4}$	10	9 $\frac{3}{4}$
Ohio.....	4	15 $\frac{5}{7}$	6 $\frac{5}{6}$	13 $\frac{1}{8}$	5 $\frac{1}{2}$	14 $\frac{1}{6}$	12 $\frac{1}{5}$	9 $\frac{1}{4}$
Michigan.....	7	13	8 $\frac{1}{2}$	10 $\frac{3}{8}$	9	10	10 $\frac{3}{4}$	9 $\frac{1}{2}$
Indiana.....	3 $\frac{2}{5}$	16 $\frac{4}{11}$	8 $\frac{1}{5}$	12 $\frac{1}{2}$	5 $\frac{5}{8}$	13 $\frac{1}{2}$	14	9 $\frac{1}{5}$
Illinois.....	7	13 $\frac{1}{2}$	9	10 $\frac{3}{4}$	8	9 $\frac{3}{4}$	9 $\frac{3}{8}$	9 $\frac{3}{8}$
Missouri.....	10	11	10	10 $\frac{3}{4}$	9 $\frac{1}{2}$	9 $\frac{3}{4}$	10 $\frac{1}{2}$	11
Wisconsin.....	6 $\frac{1}{8}$	14 $\frac{2}{3}$	9	10 $\frac{3}{8}$	8 $\frac{1}{2}$	10	11 $\frac{2}{4}$	9 $\frac{2}{8}$
Iowa.....	9	10 $\frac{1}{6}$	10	10	10	10	12 $\frac{1}{8}$	10 $\frac{1}{4}$
Minnesota.....	10 $\frac{5}{9}$	9 $\frac{2}{8}$	10 $\frac{1}{3}$	8 $\frac{2}{7}$	8 $\frac{2}{4}$	10	11	9
Kansas.....	14 $\frac{1}{3}$	8 $\frac{1}{2}$	12 $\frac{1}{8}$	9	13	10	10	12
West Virginia.....	5 $\frac{2}{8}$	13 $\frac{2}{8}$	6 $\frac{1}{8}$	12	7 $\frac{5}{6}$	11 $\frac{5}{6}$	8 $\frac{2}{8}$	10 $\frac{1}{2}$
Nebraska Territory	8 $\frac{2}{8}$	10	11 $\frac{1}{2}$	8 $\frac{2}{8}$	15	-----	12 $\frac{1}{10}$	13

Table showing the condition of the crops, &c.—Continued.

States.	SPRING BARLEY.		OATS.		CLOVER.		SPRING PASTURE.	
	Average amount of spring barley sown compared with 1865.	Average appearance of same on June 1, 1866.	Average amount of oats sown compared with 1865.	Average appearance of same on June 1, 1866.	Average amount of acres sown in clover this spring compared with 1865.	Average amount of old clover fields frozen out this winter.	Average appearance of pasture other than clover.	Average appearance of clover pasture.
Maine.....	9½	9½	10½	9¾	10	13½	8¾	8½
New Hampshire..	10	10	10	9¾	10	9	8½	8
Vermont	10	9¾	10½	9½	10	10½	7½	8
Massachusetts ..	10¾	10	10	9½	9	9½	7½	7¾
Rhode Island ...	10	10	10	10	10	10	9½	6¾
Connecticut.....	10	9	10¾	9½	10¾	10	8½	8¾
New York.....	9¾	9¾	10½	9½	11	10	8¾	8¾
New Jersey.....	9	9½	9¾	9½	10	9½	8½	8½
Pennsylvania ...	10½	8¾	10½	8½	10½	10	8½	8½
Maryland	10	10	10½	9½	10½	9	8	7¾
Delaware			10	9	11½	8	8	8
Kentucky	10¾	10½	11¾	10	10½	9½	9¾	9
Ohio	9½	9¾	11	9	10	10	8½	7¾
Michigan.....	9¾	9½	10¾	9	11½	10½	8	7½
Indiana	10½	9½	11½	8	9½	10	9½	8½
Illinois	9¾	9½	10½	8½	10½	9½	9½	8½
Missouri.....	10¾	11	12½	11	11½	8¾	11½	11½
Wisconsin	10	9¾	10½	9½	10½	10	8½	8½
Iowa	10½	10½	10¾	10¾	11	10	10	9½
Minnesota	10	9	11	9½	10½	10¾	9½	9
Kansas.....	11	10½	11½	11½	12	9½	11½	11
West Virginia ..	9¾	9½	11½	9½	10½	10	8½	8½
Nebraska Ter'y..	12½	12½	11½	13	10	10	12	10

Table showing the condition of the crops, &c.—Continued.

States.	SUGAR AND MOLASSES.		SHEEP.		APPLES.		PEACHES.		PEARS.	
	Average amount of maple sugar made this spring compared with 1865.	Average am't of maple mo- lasses made this spring compared with 1865.	Average condition of sheep this spring com- pared with 1865.	Average number died and killed the past winter and spring compared with 1866.	Average amount of apple bloom this spring.	Average appearance of apple crop on June 1, 1866.	Average amount of peach bloom this spring.	Average appearance of peach crop on June 1, 1866.	Average amount of pear bloom this spring.	Average appearance of pear crop on June 1, 1866.
Maine	9 $\frac{1}{4}$	9 $\frac{5}{6}$	10 $\frac{7}{10}$	9 $\frac{5}{6}$	12 $\frac{1}{8}$	12 $\frac{1}{2}$	.....	.....	11 $\frac{1}{2}$	11
New Hampshire....	10	10 $\frac{1}{2}$	11 $\frac{1}{2}$	9 $\frac{1}{6}$	12	10 $\frac{3}{8}$	9	9	9 $\frac{3}{8}$	8 $\frac{1}{2}$
Vermont	9 $\frac{1}{2}$	9	10 $\frac{5}{8}$	10	.....	12 $\frac{1}{2}$	.....	.....	8 $\frac{1}{4}$	9
Massachusetts	10	10 $\frac{1}{2}$	10	10 $\frac{7}{8}$	11 $\frac{1}{2}$	10 $\frac{5}{8}$	6 $\frac{1}{2}$	6 $\frac{1}{2}$	10	9 $\frac{1}{4}$
Rhode Island .....	.....	.....	10	10	11	11 $\frac{1}{2}$	10	1	10 $\frac{1}{8}$	10
Connecticut.....	9 $\frac{1}{2}$	8 $\frac{1}{2}$	11	10	11 $\frac{3}{4}$	11	12	12	10	10
New York	9 $\frac{1}{8}$	9 $\frac{1}{8}$	10 $\frac{1}{5}$	9 $\frac{2}{3}$	11 $\frac{1}{4}$	10 $\frac{1}{2}$	7 $\frac{1}{2}$	7 $\frac{1}{2}$	10	10
New Jersey.....	10	10	10	10	12 $\frac{1}{2}$	11 $\frac{1}{2}$	4 $\frac{3}{4}$	4 $\frac{1}{2}$	10 $\frac{1}{2}$	9 $\frac{1}{2}$
Pennsylvania	8 $\frac{1}{2}$	9	10 $\frac{1}{2}$	9 $\frac{7}{10}$	11 $\frac{1}{2}$	10 $\frac{3}{8}$	9	7 $\frac{1}{2}$	10	8
Maryland.....	.....	.....	9 $\frac{1}{8}$	10 $\frac{3}{11}$	10	9	8	6	9	7 $\frac{1}{2}$
Delaware.....	10	12	8 $\frac{1}{2}$	12	10 $\frac{3}{8}$	9	9	6 $\frac{1}{2}$	8 $\frac{3}{8}$	9 $\frac{1}{8}$
Kentucky	9 $\frac{1}{8}$	9 $\frac{1}{6}$	10 $\frac{1}{2}$	9 $\frac{3}{4}$	.....	7	6 $\frac{1}{4}$	5 $\frac{1}{2}$	8	7
Ohio	8 $\frac{1}{4}$	8 $\frac{1}{4}$	10	10 $\frac{1}{6}$	10 $\frac{3}{8}$	9 $\frac{1}{4}$	3 $\frac{3}{8}$	4	8	7
Michigan.....	6 $\frac{3}{8}$	6 $\frac{3}{8}$	10 $\frac{1}{6}$	10 $\frac{1}{5}$	9 $\frac{3}{4}$	8 $\frac{3}{4}$	7 $\frac{1}{2}$	7	9 $\frac{3}{4}$	8 $\frac{1}{2}$
Indiana	8 $\frac{5}{8}$	9 $\frac{1}{6}$	9 $\frac{2}{3}$	10 $\frac{7}{10}$	9	8	4 $\frac{1}{2}$	6 $\frac{1}{5}$	7 $\frac{1}{5}$	7
Illinois	9 $\frac{1}{2}$	9 $\frac{1}{3}$	10	9 $\frac{2}{3}$	11 $\frac{3}{4}$	10 $\frac{1}{5}$	10	9 $\frac{1}{4}$	10	9
Missouri.....	8	.....	11 $\frac{1}{5}$	9 $\frac{2}{3}$	11 $\frac{1}{4}$	10	7 $\frac{1}{4}$	8 $\frac{1}{8}$	10 $\frac{3}{8}$	8 $\frac{3}{8}$
Wisconsin	7	7 $\frac{1}{4}$	10 $\frac{1}{4}$	10	10	10	10	10	10 $\frac{1}{5}$	9 $\frac{3}{8}$
Iowa	8 $\frac{1}{4}$	8 $\frac{1}{4}$	10 $\frac{4}{10}$	9 $\frac{5}{7}$	12 $\frac{1}{4}$	10	10	9 $\frac{5}{7}$	11	9
Minnesota	8 $\frac{1}{8}$	8 $\frac{1}{8}$	9 $\frac{2}{3}$	12 $\frac{1}{4}$	9 $\frac{1}{2}$	9	.....	10	10	10
Kansas	9 $\frac{3}{8}$	10	10 $\frac{1}{2}$	9 $\frac{1}{2}$	13 $\frac{1}{2}$	11 $\frac{1}{2}$	12	11 $\frac{1}{2}$	11 $\frac{1}{2}$	11 $\frac{1}{2}$
West Virginia.....	9 $\frac{1}{8}$	9	10 $\frac{5}{9}$	9 $\frac{5}{6}$	9	8 $\frac{1}{2}$	7	5 $\frac{1}{2}$	8 $\frac{1}{2}$	6 $\frac{5}{6}$
Nebraska Territory .....	.....	.....	10 $\frac{1}{2}$	9	8 $\frac{3}{8}$	9	10	10	10	10

METEOROLOGY.

APRIL, 1866.

Table showing the highest and lowest range of the thermometer, (with dates prefixed,) the mean temperature, and amount of rain, (in inches and tenths,) for April, 1866, at the following places, as given by the observers named. The daily observations were made at 7 o'clock a. m. and 2 and 9 p. m.

Place.	County.	Observer's name.	Date.	Max.	Date.	Min.	Mean.	Rain.
MAINE.								
Steuben	Washington	J. D. Parker	19	71	17	31	42.9	4.02
Lee	Penobscot	B. H. Towle	23	64	11	20	43.3	2.95
West Waterville....	Kennebec	B. F. Wilbur	22	69	8, 9	30	45.2	2.15
Lisbon	Androscoggin....	Asa P. Moore						2.23
Webster	do	Almon Robinson....	19	73	9, 10	30	44.4	
Standish	Cumberland	John P. Moulton....	21	82	12	28	46.1	2.96
Cornish	York	Silas West	21	77	10	28	44.8	1.50
Cornishville	do	G. W. Guptill	21	77	9	30	42.6	2.46
NEW HAMPSHIRE.								
Stratford	Coos	Branch Brown	21	69	10	21	41.0	2.12
Shelburne	do	F. Odell	21	78	18	29	46.4	
North Barnard....	Belknap	C. H. Pitman	21	78	9	32	46.8	1.32
Concord	Merrimack	John T. Wheeler	21	81	8, 9	28	48.6	
Claremont	Sullivan	S. O. Mead	21	79	10	26	45.0	
Do	do	Arthur Chase	21	80	10	26	46.9	2.00
VERMONT.								
Lunenburg	Essex	H. A. Cutting	18	65	28	20	38.0	2.50
Craftsbury	Orleans	James A. Paddock..	18	69	30	27	41.1	1.95
Randolph	Orange	Charles S. Paine	21	72	10	21	44.8	1.78
Middlebury	Addison	H. A. Sheldon	21	76	10	28	46.9	1.78
Brandon	Rutland	Harmon Buckland..	21	78	3	27	47.3	0.86
Barnet	Caledonia	Benj. F. Eaton	12	76	3	25	46.0	2.06
MASSACHUSETTS.								
Topsfield	Essex	S. A. Merriam	21	81	8, 9	35	50.3	1.49
Georgetown	do	Henry M. Nelson	21	83	17	31	47.7	
Newbury	do	John H. Caldwell..	21	85	8, 9, 10	32	47.7	
North Billerica	Middlesex	Rev. E. Nason	21	80	9, 10	30	49.0	
New Bedford	Bristol	Samuel Rodman....	22	72	9	33	46.8	1.95
Worcester	Worcester	Joseph Draper, M.D.	19, 22	76	8	34	49.3	2.09
Mendon	do	J. G. Metcalf, M. D.	16	78	8, 9, 18	32	47.2	1.95
Amherst	Hampshire	Prof. E. Snell	21	84	8, 10	30	48.6	2.03
Springfield	Hampden	J. Weatherhead	21	85	10	25	48.4	2.23

Table showing the range of the thermometer, &c., for April—Continued.

Place.	County.	Observer's name.	Date.	Max.	Date.	Min.	Mean.	Rain.
MASSACHUSETTS—Continued.								
Westfield.....	Hampden.....	Rev. E. Davis.....	21	82	8	31	48.4	2.25
Richmond.....	Berkshire.....	Wm. Bacon.....	19, 21	80	1	24	46.3	4.02
Williams College.....	do.....	Prof. A. Hopkins.....	21	80	9	24	46.2	0.75
RHODE ISLAND.								
Newport.....	Newport.....	Wm. H. Crandall.....	22	68	9	34	47.1	1.74
CONNECTICUT.								
Pomfret.....	Windham.....	Rev. D. Hunt.....	21	80	8	30	45.2	3.47
Columbia.....	Tolland.....	Wm. H. Yeomans.....	22	79	2, 8	34	50.2	.....
Middletown.....	Middlesex.....	Prof. John Johnston.....	22	83	10	30	50.7	2.90
Colebrook.....	Litchfield.....	Charlotte Rockwell.....	21	81	8, 11	25	46.7	.....
Groton.....	New London.....	Rev. E. Dewhurst.....	22	70	8	32	48.3	3.32
NEW YORK.								
Moriches.....	Suffolk.....	Miss N. Smith.....	6	79	10	34	51.8	2.85
Fort Ann.....	Washington.....	P. A. McMore.....	22	69	26	35	51.0	3.00
Albany.....	Albany.....	H. M. Paine, M. D.....	20	86	7, 9	40	57.1	1.66
Fishkill Landing.....	Dutchess.....	Wm. H. Denning.....	21	81	8, 9	32	51.7	1.92
Garrison's.....	Putnam.....	Thos. B. Arden.....	20	83	9	30	48.0	2.51
Throg's Neck.....	West Chester.....	Miss E. Morris.....	22	75	8, 10	32	49.7	.....
Deaf & Dumb Inst.....	New York.....	Prof. O. W. Morris.....	21	82	8	37	53.7	4.09
Columbia College.....	do.....	H. B. Cornwall.....	21	79	8	34	50.3	2.40
Flatbush.....	Kings.....	Eli T. Mack.....	22	83	9	34	50.1	2.71
Newburg.....	Orange.....	James H. Gardiner.....	21	84	8	32	51.1	1.90
Troy.....	Rensselaer.....	J. W. Heimstreet.....	20	82	9, 10	33	50.8	1.45
Gouverneur.....	St. Lawrence.....	C. H. Russell.....	18, 20	76	8	25	46.3	2.46
North Hammond.....	do.....	C. A. Wooster.....	5, 12, 20	75	9	24	46.2	3.07
South Trenton.....	Oneida.....	Storrs Barrows.....	20	82	8	14	38.5	1.32
Depauville.....	Jefferson.....	Henry Haas.....	20	76	7, 8, 10, 26	31	46.4	2.29
Oswego.....	Oswego.....	Wm. S. Malcolm.....	21	73	10	29	46.7	3.33
Palermo.....	do.....	E. B. Bartlett.....	20	84	9	25	46.1	2.90
Skaneateles.....	Onondaga.....	W. M. Beauchamp.....	5	83	8	27	48.3	.....
Baldwinsville.....	do.....	John Bowman.....	20	80	9	28	45.8	.....
Nichols.....	Tioga.....	Robert Howell.....	5	86	8, 9	29	49.8	.....
Geneva.....	Ontario.....	Rev. Dr. W. D. Wilson.....	20	82	8	31	47.3	2.16
Rochester.....	Monroe.....	M. M. Mathews, M. D.....	20	85	9	32	49.0	3.20
Do.....	do.....	Prof. C. Dewey.....	20	85	9	30	48.7	3.10
Little Genesee.....	Allegany.....	Daniel Edwards.....	28	84	9	23	47.6	.....
Buffalo.....	Erie.....	William Ives.....	4	80	9	28	42.2	2.61
Germantown.....	Columbia.....	Rev. S. W. Roe.....	20	82	.....	.....	.....	.....
NEW JERSEY.								
Paterson.....	Passaic.....	Wm. Brooks.....	21	84	8, 10	31	51.2	2.28
Newark.....	Essex.....	W. A. Whitehead.....	21	83	10	30	51.9	2.82
New Brunswick.....	Middlesex.....	George H. Cook.....	21	80	8	33	54.6	3.08
Trenton.....	Mercer.....	E. R. Cook.....	6	78	10	34	55.8	4.02
Burlington.....	Burlington.....	John C. Deacon.....	21, 22	80	10	32	53.7	4.00
Moorestown.....	do.....	Thomas J. Beans.....	21	82	8	35	52.8	3.16
Mount Holly.....	do.....	M. J. Rhees, M. D.....	21	80	10	33	53.6	.....
Greenwich.....	Cumberland.....	R. C. Sheppard.....	21	79	10	35	53.8	1.97

Table showing the range of the thermometer, &c., for April—Continued.

Place.	County.	Observer's name.	Date.	Max.	Date.	Min.	Mean.	Rain.
PENNSYLVANIA.								
Nyce's.....	Pike	John Grathwohl	5	84	9	23	47.5	2.10
Fallsington.....	Bucks	Ebenezer Hance....	21	80	8	36	52.0	2.90
Philadelphia.....	Philadelphia	Pf. J. A. Kirkpatrick	21	82	8, 9	38	55.5	2.92
Germantown.....	do	Thomas Meehan....	21	85	9	34	52.8	.....
Moorland.....	Montgomery.....	Miss Anna Spencer....	21	80	8, 9	34	49.1	2.73
Dyberry.....	Wayne.....	Theodore Day.....	20	82	9, 10	22	47.1	.....
Nazareth.....	Northampton.....	L. E. Ricksecker....	21	82	9, 10	35	52.1	.....
North Whitehall.....	Lehigh.....	Edward Kohler.....	21	84	10	26	51.5	.....
Parkeville.....	Chester.....	F. Darlington.....	21	82	10	30	52.4	2.39
Ephrata.....	Lancaster.....	W. H. Spera.....	20	81	9	31	.....	2.46
Harrisburg.....	Dauphin.....	John Heisely, M.D....	20	82	8	36	55.2	3.97
Lewisburg.....	Union.....	C. S. James.....	20	80	8	30	51.6	3.25
Tioga.....	Tioga.....	E. T. Bentley.....	21	88	9	22	50.1	2.47
Pennsville.....	Clearfield.....	Elisha Fenton.....	20	85	9	26	48.3	3.15
Connellsville.....	Fayette.....	John Taylor.....	20	88	8	27	55.1	.....
New Castle.....	Lawrence.....	E. M. McConnell....	20	81	9	24	53.5	.....
DELAWARE.								
Delaware city.....	New Castle.....	L. J. Vanhekle.....	21	82	8.9	37	53.8	.....
MARYLAND.								
Woodlawn.....	Cecil.....	Jas. O. McCormick..	21, 22	80	9	35	54.7	4.75
Catonsville.....	Baltimore.....	Grape & Raulett....	5	79	8	32	51.1	.....
Annapolis.....	Anne Arundel....	Wm. R. Goodman....	21	81	10	37	55.8	3.04
St. Iniges.....	St. Mary's.....	Rev. J. Stephenson..	21	80	7, 8, 9	40	56.4	3.55
Frederick.....	Frederick.....	Miss H. M. Baer....	20	78	8, 10	32	54.3	3.25
VIRGINIA.								
Wytheville.....	Wythe.....	Howard Shriver....	4, 28	81	9, 11	31	56.0	.....
WEST VIRGINIA.								
Cabell Court House.	Cabell.....	C. L. Roffe.....	4	84	7	34	58.5	5.40
NORTH CAROLINA.								
Wilson.....	Wilson.....	E. W. Adams, A. M....	28	91	9	38	64.1	6.35
GEORGIA.								
Atlanta.....	Fulton.....	Frederick Deckner .	27	91	11	36	62.4	4.21
MISSISSIPPI.								
Grenada.....	Yalobusha.....	Albert Moore.....	.....	.....	9	37	.....	.....
Natchez.....	Adams.....	Robert McCary.....	3, 17, 18, 19, 21, 26, 27, 28, 30	80	9	38	65.8	9.50
ARKANSAS.								
Helena.....	Phillips.....	O. F. Russell.....	27	89	7	42	66.4	5.40
TENNESSEE.								
Clarksville.....	Montgomery.....	Wm. M. Stewart....	27	89	7, 8	37	61.5	4.40

Table showing the range of the thermometer, &c., for April—Continued.

Place.	County.	Observer's name.	Date.	Max.	Date.	Min.	Mean.	Rain.
KENTUCKY.								
Louisville	Jefferson	Mrs. L. Young	27	87	9	30	60.0	2.57
(Near) Chilesburg	Clark	Dr. S. D. Martin	4, 27, 28	82	9	28	58.2	3.83
Taylorsville	Spencer	H. C. Mathis, M. D.	28	88	.....	.....	.....	.....
OHIO.								
Saybrook	Ashtabula	James B. Fraser	4, 18	82	8, 9	28	49.5	.....
New Lisbon	Columbiana	J. F. Benner	20, 28	86	8, 10	28	55.6	2.78
East Fairfield	do	S. B. McMillan	28	82	8, 9	31	53.0	1.67
Steubenville	Jefferson	Joseph B. Doyle	20	83	9	32	57.2	.....
Smithville	do	Mrs. M. E. & D. N. Tweedy.	19	90	9, 27	32	57.9	0.66
East Cleveland	Cuyahoga	Mr. & Mrs. G. A. Hyde	18	84	8	23	51.8	2.37
Wooster	Wayne	Martin Winger	28	88	9	28	54.5	.....
Gallipolis	Gallia	A. P. Rogers	4	85	8	31	57.3	3.61
Kelley's Island	Erie	Geo. C. Huntington	18	75	8	30	49.6	1.11
Norwalk	Huron	Rev. A. Newton	4	84	9	29	52.5	2.38
Westerville	Franklin	Pf. H. A. Thompson.	3, 19	81	8	30	57.3	1.63
Kingston	Ross	Prof. Jno. Haywood.	3	88	9	30	58.5	1.63
Toledo	Lucas	J. B. Trembly, M. D.	18	82	7, 9	30	50.9	0.88
Marion	Marion	H. A. True, M. D.	4	80	9	28	53.7	2.23
Urbana University	Champaign	Prof. M. G. Williams.	3, 4	82	8	30	55.8	1.69
Hillsboro'	Highland	J. McD. Mathews	4, 28	80	8, 9	29	56.1	2.23
Ripley	Brown	G. Bambach, M. D.	5	88	8	35	61.2	2.13
Bethel	Clermont	Geo. W. Crane	3, 4	82	9	28	55.0	1.90
Cincinnati	Hamilton	R. C. Phillips	4	84	8	33	60.7	2.49
College Hill	do	L. B. Tuckerman	28	82	9	28	57.0	3.16
Do	do	John W. Hammitt	4, 18, 28	82	9	30	58.0	3.63
MICHIGAN.								
Monroe	Monroe	Miss F. E. Whelpley.	28	77	8	28	50.3	0.80
State Ag. College	Ingham	Prof. R. C. Kedzie	18	78	7	29	48.9	1.41
Homestead	Benzie	Geo. E. Steele	27	76	8	19	42.8	.....
Holland	Ottawa	L. H. Streng	18	79	7	24	47.7	2.08
INDIANA.								
Balbec	Jay	Miss M. Griest	4	88	9	28	55.8	.....
Aurora	Dearborn	Geo. Sutton, M. D.	27	87	9	28	57.9	1.91
Vevay	Switzerland	Chas. G. Boerner	28	97	7	33	61.8	1.69
Richmond	Wayne	John Valentine	4	81	9	31	54.4	2.52
Spiceland	Henry	Wm. Dawson	4, 27	82	8	30	56.7	2.30
Columbia	Whitley	Dr. F. & Miss McCoy.	17	84	8	26	52.5	1.50
New Harmony	Posey	Jno. Chappellsmith	27	86	8	36	61.2	1.26
ILLINOIS.								
Chicago	Cook	Samuel Brookes	27	84	5, 6, 7	26	44.1	.....
Marengo	McHenry	J. S. Rogers	27	84	6, 8	28	48.7	2.57
Riley	do	E. Babcock	17	84	7	26	45.3	2.28
Golconda	Pope	W. V. Eldredge	17	90	8	32	64.3	2.05
Aurora	Kane	A. Spaulding	27	84	8	22	49.9	0.90
Sandwich	De Kalb	N. E. Ballou, M. D.	27	83	1	25	50.5	1.65
Ottova	La Salle	Mrs. E. H. Merwin	18	84	.....	.....	.....	1.62
Winnebago	Winnebago	J. W. & Miss Tolman	27	84	5, 6	27	48.9	3.06
Wyanaet	Bureau	E. S. & Miss Phelps.	27	88	7, 9	26	52.3	1.09

Table showing the range of the thermometer, &c., for April—Continued.

ace.	County.	Observer's name.	Date.	Max.	Date.	Min.	Mean.	Rain.
ILLINOIS—Cont'd.				°		°	°	In.
Tiskilwa	Bureau	Verry Aldrich	27	86	6, 9	28	52.8	.....
Elmira	Stark	O. A. Blanchard	27	88	6	27	53.4	2.06
Hennepin	Putnam	Smiley Shepherd	27	89	7	26	53.0	.....
Peoria	Peoria	Frederick Brendel	27	87	6	32	56.3	2.65
Springfield	Sangamon	G. M. Brinkerhoff	27	84	7	26	50.6	.....
Loami .....	.....do	Timothy Dudley	27	87	5, 7, 8	30	55.9	0.95
Dubois	Washington	Wm. C. Spencer	27	83	8	22	55.3	1.90
Hoyleton .....	.....do	O. J. Marsh	18, 27	85	.....	.....	.....	.....
Galesburg	Knox	Pf. W. Livingston	27	85	6, 7	30	51.5	2.52
Augusta	Hancock	S. B. Mead, M. D.	17	81	7	26	54.8	4.79
Manchester	Scott	Dr. J. & C. Grant	27	86	5	30	58.1	4.16
Clinton	De Witt	C. H. Moore .....	.....	.....	7, 9	32	.....	.....
Mount Sterling	Brown	Rev. A. Duncan	27	86	5	30	57.5	.....
Andalusia	Rock Island	Dr. E. H. Bowman	29	89	1, 8	28	52.0	.....
WISCONSIN.								
Manitowoc	Manitowoc	Jacob Lüps	18	76	8	23	42.1	2.10
Milwaukee	Milwaukee	I. A. Lapham, LL.D.	18	74	8	24	43.5	3.04
Do .....	.....do	Carl Winkler	18	76	6, 8	30	44.6	3.49
Ripon	Fond du Lac	Prof. Wm. H. Ward	17	76	6, 8	24	46.2	.....
loomfield	Walworth	Wm. H. Whiting	27	83	7	25	47.2	.....
Delavan .....	.....do	Leveus Eddy	27	80	6, 7	28	47.2	2.63
Waupaca	Waupaca	H. C. Mead	17	77	5, 7	27	46.2	.....
Weyauwega .....	.....do	J. C. & B. F. Hicks	27	84	6	25	47.4	2.94
Embarrass .....	.....do	E. Everett Breed	17	78	7	24	43.7	2.80
Rocky Run	Columbia	W. W. Curtis	27	82	7	22	47.0	4.22
Baraboo	Sauk	M. C. Waite	27	82	7	28	49.7	5.19
Beloit	Rock	H. D. Porter	27	83	5	27	49.7	4.15
Plymouth	Sheboygan	G. Moeller	18	77	6, 7, 8	24	43.2	3.10
MINNESOTA.								
Beaver Bay	Lake	C. Wieland	28	58	8	19	39.1	3.20
Afton	Washington	Dr. & Mrs. Babcock	27	80	6	20	42.8	.....
St. Paul	Ramsey	Rev. A. B. Paterson	27	76	6, 8	20	41.7	2.26
Minneapolis	Hennepin	Wm. Cheney	27	82	6	19	42.3	2.59
Forest City	Meeker	H. L. Smith	27	79	5, 8	18	43.8	3.20
Sibley	Sibley	C. E. & C. W. Woodbury.	27	82	6	17	43.0	1.93
New Ulm	Brown	Charles Roos	27	85	5	22	46.6	1.98
IOWA.								
Clinton	Clinton	Dr. P. J. Farnsworth	27	86	6	28	52.3	2.00
Lyons .....	.....do	A. T. Hudson	18	95	6	28	52.1	2.70
Davenport	Scott	George B. Pratt	27	81	6, 7	30	50.7	5.56
Dubuque	Dubuque	Asa Horr, M. D.	27	84	6	28	50.9	2.35
Muscatine	Muscatine	J. P. Walton	27	84	6, 7	26	52.1	1.91
Fort Madison	Lee	Daniel McCready	27	85	6	24	54.0	3.82
Monticello	Jones	Chauncey Mead	27	89	6	22	47.7	2.67
Ceres	Clayton	J. M. Hagensick	27	80	6, 8	22	41.2	.....
Manchester	Delaware	Allen Mead	27	86	6	24	45.7	2.10
Mount Vernon	Linn	Prof. A. Collins	27	83	6, 7	25	50.1	.....
wa City	Johnson	Prof. T. S. Parvin	27	86	6	22	51.2	92

Table showing the range of the thermometer, &c., for April—Continued.

Place.	County.	Observer's name.	Date.	Max.	Date.	Min.	Mean.	Rain.
IOWA—Continued.								
Independence.....	Buchanan	Mrs. D. B. Wheaton.	27	88	6, 7	21	48.9	4.30
Do.....	do	D. S. Deering.....	27	79	5	23	48.5	.....
Waterloo.....	Black Hawk.....	T. Steed.....	27	82	6, 7	26	48.1	.....
Iowa Falls.....	Hardin.....	N. Townsend.....	27	80	5	21	46.4	4.71
Osage.....	Mitchell.....	Rev. Alva Bush.....			6	22	.....	.....
MISSOURI.								
St. Louis University.	St. Louis	Rev. F. H. Stuntebeck	27	91	5	37	60.7	1.73
Allenton.....	do	A. Fendler.....	27	93	8	26	57.1	3.68
Athens.....	Clark.....	J. T. Caldwell.....	2, 17	80	6	28	55.6	3.63
Harrisonville.....	Cass.....	John Christian.....	1	84	5	34	58.8	6.92
Union.....	Franklin.....	Dr. W. Moore.....	27	89	6, 8	33	58.8	4.39
KANSAS.								
Olathe.....	Johnson.....	W. Beckwith.....	26	87	5	28	55.9	2.95
Atchison.....	Atchison.....	Dr. H. B. & Miss Horn	27	90	6	21	54.6	.....
Council Grove.....	Morris.....	A. Woodworth.....	16	87	6	26	55.7	4.25
Leavenworth.....	Leavenworth.....	Dr. J. Stayman.....	27	90	6	24	56.5	2.93
Burlington.....	Coffey.....	Allen Crocker.....	16, 27	85	5, 7	30	59.2	4.43
NEBRASKA TER.								
Elkhorn.....	Washington.....	John S. Bowen.....	2	90	5	25	50.9	.....
Bellevue.....	Sarpy.....	Rev. Wm. Hamilton.	2	86	5	26	51.8	1.37
Glendale.....	Cass.....	Dr. A. L. and Miss Child.	2	91	5	22	51.6	3.19
UTAH TER.								
Great Salt Lake City	Great Salt Lake.	W. W. Phelps.....	25	80	2	31	49.2	3.35
CALIFORNIA.								
Sacramento.....	Sacramento.....	T. M. Logan, M. D.	24	86	3	45	61.9	0.48
Monterey.....	Monterey.....	C. A. Canfield, M.D.	23	84	16	47	57.4	0.99
TEXAS.								
Austin.....	Travis.....	J. Van Nostrand.....	30	89	6	41	67.6	6.07
Chapel Hill.....	Washington.....	W. H. Gantt, M. D.	29, 30	86	.....	.....	.....	.....
FLORIDA.								
Jacksonville.....	Duval.....	A. S. Baldwin, M.D.	28	96	9, 10	52	74.3	1.70

Table showing the average temperature and fall of rain (in inches and tenths) for the month of April, for each of the years named, with the average number of places in each State in which the observations were made.

States and Territories.	Av. number of places.	Averages, 1855.		Averages, 1856.		Averages, 1857.		Averages, 1858.		Averages, 1859.		Averages, 1863.		Averages, 1864.		Averages, 1865.		Averages, 1866.	
		Mean temp.	Mean rain.	Mean temp.	Mean rain.	Mean temp.	Mean rain.	Mean temp.	Mean rain.	Mean temp.	Mean rain.	Mean temp.	Mean rain.	Mean temp.	Mean rain.	Mean temp.	Mean rain.	Mean temp.	Mean rain.
Maine.....	6	Deg. 38.4	In. 6.38	Deg. 42.6	In. 6.63	Deg. 39.0	In. 6.63	Deg. 39.7	In. 4.15	Deg. 38.6	In. 3.36	Deg. 40.8	In. 4.83	Deg. 37.8	In. 2.80	Deg. 43.4	In. 4.38	Deg. 41.3	In. 2.61
New Hampshire.....	4	42.2	4.73	44.3	4.22	39.9	3.99	41.0	2.94	36.1	2.73	42.3	3.16	40.1	2.12	44.8	3.80	45.8	1.81
Vermont.....	4	40.5	1.61	44.2	4.43	38.7	4.96	40.9	2.53	38.2	2.30	40.2	1.96	40.9	2.55	42.4	2.93	44.0	1.82
Massachusetts.....	12	43.6	4.95	45.4	3.23	41.8	7.25	45.1	3.29	42.9	3.46	44.8	4.22	42.2	2.30	48.8	2.95	48.0	2.08
Rhode Island.....	1	44.1	2.50	48.8	2.80	41.0	6.29	46.2	3.63	44.2	2.28	45.2	5.50	42.2	2.30	48.8	2.95	47.1	1.74
Connecticut.....	4	44.2	3.31	47.2	3.99	41.1	6.65	44.9	3.75	44.1	3.18	45.3	3.31	45.8	1.82	49.6	3.15	48.2	3.23
New York.....	81	44.4	2.78	47.2	2.39	39.1	5.88	45.8	3.26	43.3	4.97	43.8	3.28	45.9	3.52	48.2	3.71	48.6	2.55
New Jersey.....	4	49.1	1.85	50.4	2.60	42.8	6.94	48.9	3.95	46.9	5.00	48.2	5.84	48.4	3.75	52.5	3.29	53.4	3.65
New Pennsylvania.....	16	49.7	2.29	50.2	3.51	41.3	4.13	49.2	3.73	48.4	5.36	46.3	6.91	46.9	4.25	55.2	2.40	53.8	2.83
Delaware.....	1	54.7	1.32	52.9	50.1	50.1	58.4	58.4	3.82	50.8	3.93	47.7	5.13	49.3	6.14	56.3	3.15	54.5	3.65
Maryland.....	4	55.7	55.7	54.7	54.7	54.7	54.7	54.7	3.06	52.9	2.49	49.6	6.82	43.0	6.82	69.1	1.10	61.5	4.40
District of Columbia.....	1	64.9	0.80	64.6	0.63	56.5	2.92	64.2	2.59	62.2	4.68	57.7	3.97	58.3	3.07	56.7	7.68	59.1	3.20
South Carolina.....	5	64.9	3.95	59.4	4.18	49.7	5.72	60.1	4.86	57.9	5.79	54.8	3.38	51.0	3.35	46.4	1.56	47.4	2.12
Tennessee.....	2	60.6	1.63	58.8	1.63	49.2	4.46	56.5	4.72	54.2	5.93	48.3	1.74	44.5	3.35	46.4	1.56	47.4	2.12
Kentucky.....	4	55.9	2.30	53.0	1.67	40.1	3.01	51.0	4.80	47.8	5.65	48.3	1.91	44.5	3.35	46.4	1.56	47.4	2.12
Ohio.....	26	49.2	4.78	45.0	1.87	35.4	2.96	44.7	3.99	40.9	3.47	44.7	1.91	44.5	3.35	46.4	1.56	47.4	2.12
Michigan.....	7	55.1	5.02	56.5	0.81	42.1	2.15	53.9	5.17	49.6	5.13	53.2	2.63	48.8	4.24	53.9	4.77	57.2	1.86
Indiana.....	13	58.6	2.03	54.8	1.93	38.7	1.56	49.8	5.17	44.9	2.55	51.8	1.87	46.8	4.39	49.0	4.91	50.6	2.82
Wisconsin.....	9	50.9	2.03	45.7	3.04	33.4	2.45	43.6	4.32	36.0	4.28	45.0	1.91	46.7	2.35	49.2	3.14	46.0	3.37
Minnesota.....	3	51.9	2.27	41.4	4.77	29.8	1.35	46.5	2.92	34.8	2.38	47.2	0.75	41.9	0.34	43.7	3.90	42.8	2.53
Iowa.....	6	53.6	2.27	51.7	3.35	36.8	1.35	46.5	2.92	34.8	2.38	47.2	0.75	41.9	0.34	43.7	3.90	42.8	2.53
Missouri.....	2	62.2	1.79	60.1	6.35	43.5	1.72	48.2	4.67	51.9	4.89	53.1	1.45	50.6	2.40	46.0	3.95	58.2	4.07
Nebraska.....	2	62.2	1.79	60.1	6.35	43.5	1.72	48.2	4.67	51.9	4.89	53.1	1.45	50.6	2.40	46.0	3.95	58.2	4.07
Nebraska Territory.....	2	62.2	1.79	60.1	6.35	43.5	1.72	48.2	4.67	51.9	4.89	53.1	1.45	50.6	2.40	46.0	3.95	58.2	4.07
Kansas.....	2	62.2	1.79	60.1	6.35	43.5	1.72	48.2	4.67	51.9	4.89	53.1	1.45	50.6	2.40	46.0	3.95	58.2	4.07
California.....	3	58.5	1.19	58.5	1.19	61.1	0.33	52.5	0.96	55.4	2.49	54.8	2.66	51.3	2.86	53.8	1.58	56.4	0.74

NOTES OF THE WEATHER—APRIL, 1866.

FROM THE SMITHSONIAN INSTITUTION.

Steuben, Maine.—April 6.—In digging a grave frost was found four feet down, owing to there being no snow and the long continuance of cold weather. 10th and 11th, very white frost. 15th, an inch and two-tenths of snow fell last night. 18th, very heavy frost; ground as white as if covered with snow. 21st, a thunder-shower at 7 p. m.; sharp lightning. 24th, hard rain last night, at times with hail. A thunder-shower from 4 to 5 o'clock this morning. The lightning struck a house in West Gouldsberry, rendering it untenable till repaired. A lady was injured and her child killed. 28th, it freezes quite hard in nights.

Cornish, Maine.—April 7.—Snow from 9 to 11 p. m., half an inch. 21st, thunder and lightning from 5 p. m. to 7 p. m. from the northwest. 30th, grass very forward for the season.

Standish, Maine.—April 17.—Heavy frost last night; ground frozen quite hard this morning. 18th, ice broke up in Sebago lake. 21st, showers from 5.30 p. m. to 8.25 p. m., with lightning. 24th, frost disappeared from the ground. 26th, 27th, ground froze a little on both these mornings.

West Waterville, Maine.—April 18.—Spring work on the farm commenced. 19th, ice cleared from snow pond to-day below the Narrows.

Lisbon, Maine.—April 2.—Two men crossed on the ice at Southwest Bend. 4th, ice all out of the river. 21st, thunder-storm at 5 p. m., the first this season. 30th, the month closes with cold, windy weather; but very little farming done yet.

Lee, Maine.—April 9.—White frost this morning. 14th, steamboat runs to head of navigation on Penobscot river. 20th, ground clear of frost. 24th, diffuse lightning and distant thunder at 6 a. m., first this season.

North Barnstead, New Hampshire.—April 21.—Heavy thunder from 4 to 6 p. m. coming from the west and passing off in an easterly direction. 28th, thunder from the west and northwest.

Stratford, New Hampshire.—April 3.—First appearance of robins. 18th, white or soft maple in bloom. 21st, first appearance of barn swallows. 25th, mountain tops white with snow. 26th, three-quarters of an inch of snow this morning.

Shelburne, New Hampshire.—April 7.—Androscoggin river open. 12th, grass just starting. 23d, lilac leafing. 26th, snow-squalls. 30th, heavy frost, ground frozen.

Barnet, Vermont.—April 1.—The ground froze unusually deep the past winter, to the depth of three feet. 5th, the Connecticut river broke up. 23d, the first thunder of the season. 24th, the barometer stood lower than for several years. 30th, there has been much less rain than usual in this month; there was none till after the middle, yet the season is rather more forward than usual.

Middlebury, Vermont.—April 30.—The month has been quite dry, the season is early, and the farmers have sowed grain two weeks earlier than usual.

Topsfield, Massachusetts.—April 18.—Caterpillars just making their appearance in usual numbers. 27th, black frost, doing no perceptible injury to vege-

tation. 30th, barley and other grains have come up finely, and grass looks well, though the ground is quite dry, the rain being absorbed very quickly. The pastures, however, are backward.

Westfield, Massachusetts.—April 7.—The last snow fell. 21st, the first thunder-shower of the season. 24th, at 7 a. m. the barometer fell to 28.87, (corrected for temperature,) which was lower than the observer had ever seen it in this place. 28th, plums in blossom. The flower buds of peach trees are winter-killed.

North Billerica, Massachusetts.—April 5.—Lilac leaves unfolding; farmers ploughing. 24th, barometer at 2 p. m. lower than the observer ever saw it before. 30th, the early cherry in bloom in sheltered situations; on the whole, the spring is backward.

New Bedford, Massachusetts.—April 15.—Lawns and grass plots assume a bright green. 19th, blossoms of the silver poplar falling. 27th, elm blossoms fall. 30th, some dwarf magnolias in the warmest situations in flower.

Middletown, Connecticut.—April 21.—Thunder and lightning in the morning. 23d, thunder and lightning in the morning and evening.

Theresa, New York.—April 7.—Ice went out of the river. 15th, frost mostly out of the ground. 21st, four peals of very distant thunder at 3 a. m. 27th, ground froze some.

Drpauville, New York.—April 4.—Return of snipes and ground birds; put out bees; some old snow banks along the north side of walls and fences. 10th, farmers begin to plough. 12th, roads dry, and on high ground dusty; some oats and spring wheat sown to-day. 18th, first schooner leaves the port of Clayton, on the St. Lawrence river. 27th, frost; ice a tenth of an inch thick. 30th, the month was rather dry, but, in the mean, mild and pleasant, and very favorable for farm work. Owing to the warm weather from the 16th to the 23d vegetation was quite brisk, but was retarded by the cold nights of last week.

Garrison's, New York.—The weather during April has averaged cold and dry; vegetation coming forward slowly will class the season as backward. The first shad taken at this position was on the 9th. Quite a thunder-storm from the southwest on the 21st.

Moriches, New York.—April 19.—Martins first seen about their favorite resting-place on the barn. 21st, at 6.5 p. m. thunder in the west; a shower came up, and thunder and lightning were noticed four or five times; passed east. 23d, thunder heard several times at 9½ a. m., apparently from the southeast, and soon overhead. 26th, thin ice seen in a small boat. 28th, a general frost this morning. 30th, for four days large fires have prevailed in the pine barrens or forests a few miles to the west and northwest. The air has been excessively dry.

New York, New York.—April 8.—Snow during the forenoon, ground white, but the snow chiefly melted as it fell. 21st, thunder shower at 4 10 p. m. to the north, and here from 4.40 to 5.20 p. m.; lightning zigzag. 23d, one flash of lightning followed by thunder at 9 a. m.; three thunder-showers from 2.40 p. m. to 7 20 p. m.; with the last one the lightning white and zigzag, and thunder heavy. 23d, at 5 p. m. the barometer at Columbia college reached a point below any previously recorded there. 28th, lightning from 8 to 10 p. m.; first diffuse, then zigzag; no thunder heard.

Little Genesee, New York.—April 14.—Thunder-shower at 5 p. m. 20th, apple and currant leaves begin to show. 26th, ground froze a little. 27th, thermometer 24° at sunrise. 30th, ice this morning; thermometer 29° at sunrise.

Buffalo, New York.—April 2.—Buffalo creek broke up and ran out to-day. 4th, remarkable flight of pigeons this morning, passing eastward in immense waves, miles in length; thermometer 82° at 2.20 p. m., and 70° at sunset. Swallows came to-day. 9th, thermometer 24° at 6 a. m.; earth frozen. 17th,

red maple in blossom. 21st, rain with thunder and lightning at 2 a. m. 23d, rain from 8 a. m. to 6 p. m., with strong northeast wind, which then hauled to northwest, bringing snow; this continued till 11 a. m. 24th, about four inches of snow fell; most of it melted as it fell; the greatest depth measured was two inches; ice driven from this end of the lake and navigation open. 25th, ice in the gutters, and ground frozen. 26th, slight snow before daylight. 27th, loose earth frozen. 30th, frost this morning:

Troy, New York.—April 8.—One inch of snow last night, and falling lightly until 10½ a. m. 24th, great barometrical depression, the reading at 7 a. m. being the lowest recorded in this city.

Skaneateles, New York.—April 5.—Butterflies flitting around. 8th, 9th, 10th, white frost. 12th, lake free of ice. 16th, hepaticus and daffodils in blossom. 21st, thunder-storm from 1 to 2 a. m., about a mile to the northwest. 24th, four inches of snow; also two inches on the 25th and one inch on the 26th. 28th, thunder and diffuse lightning. 30th, severe frost. April has been remarkably dry; grass and grain look well, but a warm rain would have a good effect in expanding buds of every description.

Fishkill on Hudson, New York.—April 8.—Snowed all day, melting on roads; two inches laid on fields, five inches on the mountains; temperature before and after not low enough to do any injury. 23d, cherries and plums in bloom. 30th, the month has been very dry, with frequent gales, injurious to the grass crop, which looks very indifferent; winter grain is much frozen out.

Gouverneur, New York.—April 6.—Ice out of the Oswego river; it was melted by the heat of the sun. 24th, barometer the lowest during the last six years.

Newburgh, New York.—April 29.—A violent gale visited this vicinity during the night of the 28th, and lasted during the 29th.

Rochester, New York.—April 5.—Ice about out of the canal. 6th, freshet in the Genesee. 25th, thermometer at 2 p. m. 85°, nearly insupportable by persons working on roofs; hottest known here in April, except once, when it was 88°; apricots in blossom; horse-chestnuts leafing; some thunder, with shower, at 5½ p. m. 24th, the greatest storm of the season thus far; it commenced with rain yesterday morning, and changed to snow at about 9 in the evening, continuing till 3 p. m. to-day; at least four inches of snow must have fallen, though nearly all melted by evening. The barometer was quite low during this storm, but it has been lower in more than one case. 25th, ground frozen this morning half an inch deep; freshet in the Genesee, the highest this season. 28th, early cherries in blossom. 30th, farmers were able to plough and sow oats, plant potatoes, &c., in the dry and warm first half of the month, and to make good progress in farm work. The large rain has stopped that work in part, and it has hardly begun again.

Palermo, New York.—April 30.—This has been the warmest April for thirteen years. The spring has been quite favorable; fruit and foliage are quite forward, and also grass. The prospect for fruit is thus far believed to be good.

Greenwich, New Jersey.—April 7.—Hyacinths and crocuses in flower. 22d, trees in apple orchard generally in bloom. 23d, barometer lower to-night than the observer ever noticed it.

Mount Holly, New Jersey.—April 17.—Plum tree in bloom. 21st, cherry trees in bloom. 22d, butter pear tree in bloom. 23d, heavy showers in the morning, from 6 to 10 o'clock; about 5 p. m. a heavy fall of rain, with considerable hail as large as peas, and attended by thunder and lightning; the barometer lower than the observer ever before saw it. The storm moved from southwest to northeast. About five miles to the southwest it was as severe as here; and about five miles northeast the hail-stones are said to have been half an inch in diameter, and a large wild cherry tree was almost demolished by lightning. 26th, apple trees in bloom, with good prospect of fruit. There is said to have been frost this morning, but the observer did not see it nor any effects of it.

Newark, New Jersey.—The mean temperature of April was more than three degrees above the average of the month during the last twenty-two years; in only three years during that period (1844, 1846, and 1865) did the month show a higher result. There were irregularities observed in the order of development of vegetation, as, for instance, the young leaves of the horse-chestnuts showed themselves this year on the 20th, in advance of the blossoms of the cherries and plums, whereas last year they were more than a week behind them. The dog-wood was in full flower on the 21st; cherries put out on the 22d; plums on the next day, but pears were not in flower until the 29th. The rains of the 21st and 23d were accompanied with thunder and lightning.

Moorestown, New Jersey.—A late cold spring; asparagus eight days later than last spring; first cherry bloom the 18th; pear 19th; strawberry 21st; apple trees in full bloom on the 30th, with an unusual quantity of bloom.

Burlington, New Jersey.—April 6.—First thunder this season commenced about 4 p. m.; it passed from west to east. 23d, hail-storm about 5 p. m.; course west to east; stones three and a half inches in circumference.

Lewisburg, Pennsylvania.—Cherries blossomed April 20; plums and some peaches the 22d; pears the 30th; ground slightly frozen on the 25th and 26th.

Fallsington, Pennsylvania.—The month of April has been cold and backward, but a prospect of a great show of apple and other fruit blossoms, not yet quite out; apple, some eight or ten days later than usual.

Horsham, Pennsylvania.—Much less rain fell during April than usual. The season is backward, as much as two weeks more so than last year. The peach buds appear to be all killed, and the trees pretty nearly so. There is a fine promise of apple blossoms and of most other fruits.

Dyberry, Pennsylvania.—April 17.—A reservoir eight miles north of this place is still nearly covered with ice. A few farmers have commenced ploughing the past week. 19th, thunder in the north at 5 p. m.; the first heard this season. 30th, fifty-two and a half inches of snow fell during the past winter, but much of it was light and feathery. The average for the past twelve years is fifty-three inches.

Connellsville, Pennsylvania.—April 12.—Peach trees are in bloom. 17th, heard the whippoorwills to-night. 23d, thunder at times through the day; snow after dark. 24th, apple trees in bloom. 26th, the ground frozen this morning.

Blooming Grove, Pennsylvania.—April 6.—Swallows have arrived. 21st, thunder-storm at 2½ p. m. 22d, whippoorwills here. 29th, storm from the northwest; it blew down trees and fences.

Ephrata, Pennsylvania.—April 20.—First appearance of blossoms on cherry trees. 21st, heavy thunder-storm at 2 p. m.; two distinct showers, the first moving from the west, the second from the northwest. 22d, first appearance of blossoms on peach trees; heard whippoorwill first time this spring. 23d, thunder-shower at 4 a. m. from southwest; heavy peals of thunder; also at 3 p. m., from west, heavy thunder and forked lightning; also at 3.30 p. m. from southwest, lightning zigzag; hail about the size of a pea. 27th, first appearance of chimney swallows. 28th, thunder-storm in the evening from the west; lightning forked.

Tioga, Pennsylvania.—April 19.—Planted field potatoes to-day. 24th, snow on the hills this morning; snow considerable during the forenoon, but melted as it fell. 25th, ground froze this morning two inches deep.

Frederick, Maryland.—Apricots in bloom on the 6th; peach trees on the 15th; and plum trees on the 23d. Frost on the 26th.

Woodlawn, Maryland.—April 10.—Hoar-frost and ice; ploughed ground frozen. 12th, apple trees putting out leaves. 16th, peaches blooming. 17th, cherries blooming. 21st, whippoorwills have come. 22d, pears, plums, and cherries in full bloom. 27th, hoar-frost and thin ice.

Powhatan Hill, King George county, Virginia.—The month of April was boisterous and cold. The weather has been more like that of March. There was ice on the morning of the 10th, fatal to cherries, apricots, plums, and many of the peaches and early apple buds. Pears seem to have resisted the cold. Wheat has improved very much. The continued rains have retarded the planting of corn. The amount of rain in April (3.21 inches) exceeds the aggregate of February and March.

Wytheville, Virginia.—April 9.—Peach and cherry probably injured by the cold snap; the blooms filled with water; thermometer went down to 21°. 14th, strawberries blooming sparingly, and on the 24th plentifully.

Cabell Court House, West Virginia.—April 14.—Thunder-storm from west; hard thunder with zigzag lightning; it passed to the northeast. 15th, strawberries in bloom. 30th, peaches were all killed in the bud; but few trees bloomed; apple blooms very light.

Atlanta, Georgia.—April 1.—Pear trees in full blossom. 5th, thunder and lightning in the southwest at 7 30 p. m. 6th, apple trees in full blossom. 22d, thunder and lightning all around from 9 to 10 p. m., with copious hail; not very much damage done.

Grenada, Mississippi.—Rain from the 19th to the 22d of April. Great freshet on the 23d; the Yalabusha river higher than for fifteen or twenty years past.

Austin, Texas.—Thunder and lightning on the 2d, 3d, 4th, and 6th. Partial frost on the 8th. Thunder and lightning on the 13th, 15th, 17th, 18th, and 30th. Chuck-will's-widow heard on the 30th the first time.

Clarksville, Tennessee.—April 14.—Rain from 10 $\frac{1}{4}$ a. m. to 5 p. m.; a few peals of thunder about 3 p. m. 21st, about 1 $\frac{1}{4}$ this a. m. commenced raining; between two and three o'clock several heavy showers; no thunder observed. 22d, rain from 4 $\frac{1}{2}$ p. m. to 7 p. m.; at the beginning there was a fresh squall of wind from the westward, and a few peals of distant thunder. At 10 $\frac{1}{4}$ p. m. a light shower; barometer unusually low.

Chapel Hill, Texas.—April 9.—Frost. 17th, diffuse and forked lightning northeast, from 7 p. m. to 12 p. m. 18th, heavy thunder and rain west, at 5 a. m. 19th, northers with rain at 7.30 a. m., with heavy thunder west during the forenoon. 20th, diffuse lightning east for several hours before day; thermometer at sunrise, 45°.

Chilesburg, Kentucky.—April 9 and 10.—Heavy white frosts. 14th, a thunder-storm passed a few miles northwest at 8 a. m., and a succession of thunder-showers during the day. 21st, a succession of thunder-storms last night, beginning about 2 o'clock and lasting until day. 22d, thunder-storm at 7 p. m. passed to the north, and at 8 p. m. a heavy thunder-storm came up from southwest with showers of pelting rain. 23d, barometer low this morning. 24th, two thunder-storms to-day, one to the north and the other to the south. 26th, a heavy white frost this morning, doing considerable damage to gardens, killing cucumbers, beans, tomatoes, some of the grape shoots, and all tender vegetables that were exposed. 28th, a thunder-storm at 5.25 p. m., with strong wind and hail, doing some damage in blowing down trees and fences. The rain appeared to be almost a sheet of water, but lasted only six minutes.

Taylorsville, Kentucky.—April 7.—Began snowing last night and continued all day. 8th and 9th, considerable frost. 14th, thunder-showers, zigzag lightning, hailstones the size of peas. 24th, light frost. 25th, northwest wind strong all day; cold shower at 11 a. m. 26th, heavy frost, destroyed early vegetables, shoots of grapevines, &c.

Bethel, Ohio.—April 7.—Three inches of snow fell to-day; the deepest snow of the winter. 26th, light frost; plantain slightly frozen. 30th, fruit prospects are not very flattering. The snow of the 7th, the cold which followed, with the frost on the 26th and cold north wind, have caused the plums all to fall, many of

the pears and cherries—perhaps one-half of all; apples are also falling, though not so much as the other fruits; a very few peaches are alive.

Marion, Ohio.—April 10.—The maple in bloom. 20th, pear blossoms and currants show; cherry blossoms full bloom, but few. 28th, blossoms of early apples full bloom. 30th, blossoms of apples generally full bloom.

Saybrook, Ohio.—April 4.—Thermometer at 3 p. m., 83°; eight days ago, at 6 a. m., it was 4°. 5th, thermometer at 11 a. m. 77°; at 9 p. m. 48°. 30th, thermometer at 5 a. m. 32°. This month has been characterized by a number of very warm days, and also by sudden changes. The mercury on eight days has been at or above 70° at 2 p. m., and on three or four days the maximum has been above 80°.

Steubenville, Ohio.—Frost on the mornings of the 9th, 10th, 11th, 12th, 26th, and 27th. The rain on the 14th was accompanied by thunder and sheet lightning; the rain on the 27th was accompanied by hailstones somewhat smaller than a pea; no damage done; a little lightning and violent thunder.

Cleveland, Ohio.—April 9.—Temperature 20° at sunrise; very heavy white frost. 16th, temperature 30° at sunrise; white frost. 26th, black frost.

Kelley's Island, Ohio.—April 2.—Quite a heavy thunder-shower between 10.30 and 11.30 a. m. 4th, lights in light-houses this evening, the first time this season. 17th, crocus in blossom. 20th, thunder-shower between 2 and 4 p. m. 21st, note of whippoorwill first heard this day. 26th, hyacinth in blossom. 30th, temperature of lake, 47°.

Urbana, Ohio.—April 9.—Ice one-third of an inch thick. 23d, one inch of snow. 26th, white frost; ice one-tenth of an inch thick. 27th, 29th, 30th, white frost.

New Lisbon, Ohio.—April 2.—Martins came last night. 7th, three-quarters of an inch of snow. 10th, 12th, hard frost. 14th, heavy rain from 5 to 6.30 p. m., with thunder and lightning; tree struck south, near town, and set on fire. 23d, rain and terrible snow-storm; the lowest barometer ever recorded here. 26th, 27th, hard frost; fruit and vegetation injured some. 30th, frost.

Kingsston, Ohio.—April 7.—One inch of snow fell last night and to-day. 8th, the ground was a little frozen this morning. 14th, thunder-shower in the forenoon, and another at 6 p. m. 26th, 27th, frost, not very severe.

Hillsboro, Ohio.—April 7.—Snow two or three inches deep this morning. 13th, early cherries in bloom. 18th, peach and pear blossoms out. 19th, apple and plum blossoms out. 26th, frost, but not enough to injure fruit. 30th, prospect of fruit good, except peaches.

Homestead, Michigan.—April 3.—Robins and crows heard the first time. 9th, pigeons seen; first maple sirup brought in. 30th. The sugar season has been short, and began so late that little has been made. The spring is late and ground dry, as there has been but little rain since the snow went off.

Thunder Bay Island, Michigan.—April 6.—Lake Huron appears full of ice; boys out skating. 12th, kingfisher and oriole here. 16th, ice made last night on the lake. 21st, first vessel of the season from Saginaw; mail-carriers report ice five feet thick in Mackinaw straits. 25th, froze a quarter of an inch last night. 27th, first propeller passed up the lake.

Vecay, Indiana.—April 10.—Heavy frost last night. 14th, three thunder-storms of a mild character passed over at 7 a. m. 20th, forked lightning south at 11 p. m. 21st, at noon, thunder-storm and heavy rain from the southwest. 22d, heavy thunder-storm from the southwest at 7 p. m.; intensely brilliant lightning of a dark cornelian color. 29th, heavy white frost last night; on a close examination the peaches are found to be entirely destroyed. The seedlings alone promise to do well. All grafted fruit has suffered from the severity of the winter. Much of the wheat in the county is dead, and most of the farmers have ploughed it up and substituted other crops.

Bulbec, Indiana.—April 13.—Frost. 23d, ice an eighth of an inch thick.

26th, thin ice over standing water. 28th, first apple blossoms; the prospect for apples is very good. 29th, frost.

Marengo, Illinois.—April 6.—Commenced ploughing, which is fourteen days later than in 1865, seven days later than in 1864, and one month later than in 1860. 22d, light frost. 26th, heavy frost; ice thick as window glass.

Augusta, Illinois.—April 5.—Gooseberry leafing out. 21st, plum, pear, and cherry in blossom.

Manchester, Illinois.—April 3.—Thunder about 8 p. m. from the west. 14th, thunder during last night from north to west from 10 p. m. to 1 a. m. 23d, thunder from northwest, with rain and hail, about 5 p. m.

Galesburg, Illinois.—The month has been cold and backward. 30th, fruit trees are now coming into blossom.

Riley, Illinois.—April has been seven-eighths of a degree warmer than the mean of twelve years, yet the season is cold and backward; about two weeks later than usual. There has been over an inch less rain than the mean of eleven years.

Tiskilwa, Illinois.—April 30.—Fruit trees were dug in the nursery the 9th of this month on ground sloping to the south; frost not out so as to dig where it slopes a little to the north. This was the shortest season for selling trees the observer has known during the fifteen years he has been in the business. The spring was very cool and late until about the middle of April, when it turned very warm and everything started very fast, and the season appears now to be as forward as common. The prospect for a crop of apples was never better, also for cherries and pears. Peach trees seem to be nearly dead. Plums are blooming well.

Mount Sterling, Illinois.—April 3.—Distant thunder and lightning between 8 and 9 p. m. 14th, a short thunder-storm last night, and also between five and six o'clock this morning. 23d, pretty severe thunder-storm without rain between 4 and 6 o'clock p. m. 30th, a heavy thunder-storm with violent wind and rain between 9 and 10 p. m.

Laomi, Illinois.—April 9.—Last frost in the month. 21st, first blossom of the red bud. 23d, cherry trees in blossom. 25th, early apple trees in blossom. 29th, hickory, sugar-maple, and red elm putting out leaves. No peach blossoms this year.

Sandwich, Illinois.—April has been dry, and as warm as common. The sowing of wheat and oats was accomplished in better manner than is usual. The soil was in fine condition during the latter half of the month. On the whole the spring is at least fifteen days late.

Harrisonville, Missouri.—April 3.—Thunder and diffuse and zigzag lightning from 5 to 6 a. m. 5th, ice this morning on still water, in some places an eighth of an inch thick. 13th, heavy thunder with rain and some hail from 9 p. m. till after midnight. Thunder-storms also on the 14th, 18th, 22d, and 30th.

Athens, Missouri.—There was but little frost in April. Vegetation is backward; fruit of all kinds shows a favorable prospect except peaches, which have failed to blossom, owing to the excessive cold of the winter. Fall wheat on the prairie is generally killed; other cereals promise well. Farmers have made good progress in spring work.

Manitowoc, Wisconsin.—April 3.—Snow is gone; swallows and robins here. 14th, Manitowoc river open; very high water; bridges and mill-dams destroyed.

Milwaukee, Wisconsin.—April 2.—Very heavy rain with thunder and lightning; ice left the Milwaukee river; great flood. 4th, dam across the river gave way. 26th, white frost; ice a quarter of an inch thick. 29th, first arrival through the straits of Mackinaw, (the Montgomery.)

Plymouth, Wisconsin.—April 2.—Heavy thunder-storm from a little after midnight to 4 a. m. this morning; direction the same as is taken by nine thunder-storms out of ten, which is as follows: they appear in the W. N. W., break them-

selves on some hills several hundred feet high about four miles west from here, called the Potash Kettles, and then turn partly to the south and partly to the north, joining again in the east before reaching the borders of Lake Michigan, fourteen miles distant.

Wejauwega, Wisconsin.—April 1.—Snow commenced at 1. 20 p. m., fell about two hours, and then gradually changed to rain, which continued till 8. 45. The snow melted as fast as it fell. 2d, sleighing yet, though not very good. 3d, robins and house martins were seen, the first of the spring. 27th, steamboat on Wolf river (two miles distant) made the first trip of the season to-day.

Embarrass, Wisconsin.—April 11.—Embarrass river open to-day. Wolf river still closed. 15th, Wolf river open to-day; it usually opens some days before Embarrass river, but this year it opened last.

Waupaca, Wisconsin.—April 8.—First robin appeared. 9th, ice went out of Wolf river. 14th, great freshet, much damage done; Waupaca river two feet above high water. 18th, ice out of Waupaca lake. 23d, first steamboat went up the Wolf river. 30th, a cold backward spring thus far.

Baraboo, Wisconsin.—April 20.—Fruit-tree planting going on rapidly. 22d, frost fully out of the ground; grass finely started, and the buds of the forest trees begin to open; prospect good for a large crop of fruit.

Geneva, Wisconsin.—April 2.—First thunder and lightning, diffuse in southeast; frost not yet out of the ground. 9th, first ploughing done. 16th, Geneva lake opened. 30th, thunder and lightning; everything very backward for the season.

Rocky Run, Wisconsin.—April 2.—Thunder-storm from 11.30 last night to 7.30 this morning, doing a great deal of damage to roads, bridges, mills and dams. This is the most severe freshet that has been known for the last eighteen years in this section.

Forest City, Minnesota.—April 1.—Sharp lightning and heavy thunder. 2d, wild geese seen flying over for the first time, going northwest. 5th, slight snow all day, not enough to measure. 10th, two inches of snow fell last night.

New Ulm, Minnesota.—April 4.—Ice breaking up in Minnesota river for the first time since it froze over. 10th, team crossing on Redstone ferry. New Ulm ferry-boat sunk by the ice. 24th, at 4 p. m. a heavy northwest wind set in abruptly, blowing almost a gale.

Sibley, Minnesota.—April 24.—First prairie flowers seen; commenced to sow wheat; the spring is very late and wet. 25th, last frost of the month. 27th, thermometer 89° at half-past 4 p. m., with a gentle breeze from the south. Hearing a roar, the observer looked up southwest and saw a dense cloud of dust and ashes about three and a half miles distant; in a little less than four minutes it arrived; the gale lasted a few minutes and moderated to a very high wind, which continued all night; the thermometer sunk thirty-four degrees in two hours. The ground is frozen three feet; water in the lake three feet six inches. 30th, snow-drifts in cattle yards from two to three feet deep; grass outside of yards, three to four inches high.

St. Paul, Minnesota.—Ground frozen only about three inches by reason of early and continued snow. Mississippi river opened at St. Paul on the 10th; Lake Pepin on the 19th; below Lake Pepin on the 13th.

Afton, Minnesota.—April 9 to 13 rainy. 15th, a heavy thunder-storm passed to the west at 8 p. m. 16th to 21st, rain; on the 21st the first steamboat went through Lake St. Croix. 30th, farmers are just commencing to sow wheat.

Minneapolis, Minnesota.—April 1.—First thunder-shower this year; it was accompanied with some hail. 14th, the ice went out of the Mississippi river at this point at 7 a. m., carrying away a part of the upper bridge, several boom piers, and many logs.

Dubuque, Iowa.—April 1.—Lightning in the north at 9 p. m. The ice in the river moved off to-day; it had moved several times during the past week,

and the ferry-boat made a few crossings in the openings several days ago. 13th, soft maple trees in blossom.

Muscatine, Iowa.—April 12.—Farmers commenced sowing wheat. 15th, martins made their appearance. 26th, grass enough for cattle to live on; wheat all sowed.

Clinton, Iowa.—April 6.—Elms in blossom. 8th, martins first seen. 9th, last frost of the month. 20th, river rising fast; eight feet above low-water mark. 21st, first spring flowers, liverworts and sanguinaria. 27th, thermometer $88\frac{1}{2}^{\circ}$ at 3 p. m. 30th, river eighteen feet above low-water mark of 1859, and still rising. April has been a cold backward month; farmers have their small grain sowed, but have put in no corn yet.

Fort Madison, Iowa.—April 4.—Some snow, but it melted as it fell. 14th, gooseberry bud expands. 27th, plum, apple and cherry in blossom; there are no peach blossoms this year.

Manchester, Iowa.—April 2.—Spring seems fairly opened, and the most of the summer birds are here; martins, blue birds, robins and a multitude of ducks. 14th, farmers during the last week have been busy putting in spring wheat. 17th, frost nearly all out of the ground. 30th, spring is near fifteen days earlier than last year; the most of the wheat in this section is put in, and the ground was quite dry until to-day's rain.

Independence, Iowa.—April 1.—Distant thunder and a light shower at 9 a. m.; wild geese going north. 2d, cultivated grasses beginning to start; black birds appeared. 5th, ice on standing water an eighth of an inch in thickness formed last night; wild geese returning south; a few flakes of snow fell at 3 p. m. 9th, prairie grass begins to grow. 17th, a thunder-storm came up in the west at 4.30 p. m., a part passing over here. Two miles northeast of Independence a barn was struck by lightning; a man and a pair of horses which he was feeding were instantly killed; his wife and child who were standing near were uninjured; no marks were found upon either the man or horses; the woman only saw a blue light for an instant. White frost on the mornings of the 22d, 24th, and 29th.

Waterloo, Iowa.—April 18.—First prairie flowers. 28th, first strawberry blossoms. This spring is full eighteen days earlier than the spring of 1865. Fruit trees and all outstanding shrubbery stood the winter better than the observer has known it in this locality for the past nine years.

Osage, Iowa.—April 1.—Thunder-storm at 9 p. m.; frequent rain during the night. 2d, ice leaves the river; water very high, sweeping away bridges, dams, and mills. 9th, one inch of snow fell. 16th, thunder-storm at 7 a. m., north and south. 17th, frequent thunder-showers.

Iowa Falls, Iowa.—April 1.—Thunder to the northeast this morning; large flocks going north. 2d, blackbirds, meadow larks, martins, cranes, geese, ducks, snipes, and hundreds of small birds appeared. The river broke up to-day; ice about eighteen inches thick, tore out part of Iowa Falls mill-dam and abutment. 3d, fire on the prairie all around. Commenced to sow wheat, ground in fine order, thawed one foot deep; the frost penetrated from three feet to three feet and a half. 4th, geese, swans, cranes, and other birds going south. 5th, birds still going in large flocks. 18th, brants first seen. 24th and 29th, white frost. 30th, thunder-showers all the afternoon.

Ceres, Iowa.—April 2.—Wild geese going north. 4th, wild geese going southeast.

Avon, Kansas.—April 14.—Thunder-storm from northwest at 1 a. m., with hail of about one ounce in weight; a strong gale from the northwest during the rain, covering a belt five miles wide; hail somewhat heavier a few miles east. 18th and 19th, twenty-six hours steady and slow rain. 24th, light frost in low places; perhaps last this spring; later is not common. 30th, this

month would have been fine for farming operations but for the great amount of rain during March, rendering the ground wet and cold this month.

Leecompton, Kansas.—April 3.—Between 1 and 5 o'clock a. m. a thunder-shower passed over in an easterly direction. 5th, water froze in still places on streams last night; the ground also froze half an inch in open places. 13th, light frost last night; the ground did not freeze. 15th, thunder-storm last night from the west. 21st and 24th, a light frost on both these mornings, which did little or no damage.

Council Grove, Kansas.—April 5, 6, 7.—Froze slightly on each of these mornings. 21st, white frost this morning. 23d, dew the first time this month.

Leavenworth, Kansas.—April 3.—Thunder-storm at 3 a. m. from the southwest continued one hour; lightning diffuse, considerable wind, but very little rain. 6th, hard white frost. 13th, white frost; heavy thunder-storm went south at 9 p. m. with high wind; lightning here all night. 17th, lilac in bloom; Siberian crab in foliage, red bud commencing to bloom, 21st, pear, Siberian apple, Judas tree, Missouri currant, June berry, wild plum and wild gooseberry in full bloom.

Glendale, Nebraska.—April 2.—An unusually warm day for the season; maximum at 2.30 p. m. 92°; during the whole day a high wind from the south. 3d, prairie grass starting in favorable locations. 14th, thermometer at 5 a. m. 26°. 19th, there have been twenty-eight hours rain and only half an inch of water fell. It is characteristic of the storms this spring that they have been long and tedious and yielded but a small amount of water.

Elkhorn City, Nebraska.—April 1.—Blue-grass starting. 2d, frost out of the ground ten inches below the surface. 3d, green grass starting generally over the prairies. 4th, frost all out of the ground in places not sheltered; fine snow for a few minutes after 9 p. m. 6th, heavy white frost. 12th, heavy rain last night. 14th, white frost; soft maple and red elm blooming. 21st, lilac leafing. 30th, the month has been above the average warmth, but very windy, cloudy, and somewhat wet. Spring wheat was generally sown through the first three weeks, oats and barley in the last. Pasture is yet scant, though it has been generally ranging for ten days past or more.

MONTHLY REPORT

OF

THE AGRICULTURAL DEPARTMENT.

JULY, 1866.

WASHINGTON:
GOVERNMENT PRINTING OFFICE.
1866.



MONTHLY REPORT.

DEPARTMENT OF AGRICULTURE, *July*, 1866.

In presenting the July report of this department, I am happy in congratulating the country upon the prospect of a year of average fruitfulness. Wheat, the bread crop of the country, was in 1865 less in quantity and in quality than in 1864. Much of the seed used last autumn was of inferior quality, producing plants of low vitality, and the winter following was in most districts variable, freezing and thawing, with little snow and much moisture; and to add to the chances against the life of the plants, the spring was cold, with frequent and severe freezing. This was the case particularly in the Ohio valley, and to some extent throughout the country east of the Mississippi. But the States west of that river promise an unusually abundant crop of superior quality. The fine weather of the later spring and early summer has wonderfully developed the remaining grain of the injured districts. There has been an unusual exemption from ravages of insect tribes; neither rust nor storms have done it material injury; and now, if it escapes sprouting from wet weather, the promise is of a crop nearly as large as last year and far better in quality. The present indications, as marked by our thousands of correspondents, point to an average of about $8\frac{1}{2}$ tenths in quantity, and of a quality that will make it equal in value to last year's crop.

Oats and potatoes were both planted in enlarged breadth, and both promise abundant crops. Oats are particularly heavy.

Pastures are about the average in condition; clover fields a little below.

At least ten per cent. more corn has been planted than usual, and it is generally of fine color, in vigorous growth, but low in altitude for the season.

An extended acreage has been put in potatoes, which average about $10\frac{1}{2}$ tenths in present appearance. Sorghum is reported, on an average throughout the States, at about 9 tenths. Fruits, as will appear from inspection of the tables, are deficient in quantity, especially peaches, which are reported in the principal peach-growing States as follows: New Jersey, $1\frac{3}{5}$ tenths; Delaware, $2\frac{1}{3}$ tenths; Maryland, $4\frac{4}{5}$ tenths; Michigan, $7\frac{2}{3}$ tenths; Illinois, 5 tenths; Missouri, $6\frac{1}{5}$ tenths.

In the report valuable tables of statistics relative to wool production and consumption, and to exports of agricultural products, will be found, with various other data of resources and production that is worthy of examination and preservation.

ISAAC NEWTON, *Commissioner*.

THE BEST COTTON SECTIONS.—2.

ALABAMA.

The best cotton soils of Alabama are found in a belt extending across the State east and west, including Montgomery, Cahawba, and Selma within its boundaries, and in the alluvial region bordering upon the Alabama and Tombigbee rivers. There is also a considerable aggregate area of fertile land in the course of the streams of northern Alabama. For the greatest production of cotton the counties of this State are named in the following order, giving but ten of the entire list of fifty-two :

Counties.	Acres improved.	Bales of cotton.	Bushels of corn.
Dallas.....	261,130	63,410	1,352,961
Marengo.....	244,821	62,428	1,384,616
Montgomery.....	257,602	58,880	1,586,480
Greene.....	277,462	57,858	1,311,535
Lowndes.....	239,667	53,664	1,288,722
Wilcox.....	179,143	48,749	1,011,359
Perry.....	194,592	44,603	1,074,257
Barbour.....	209,150	44,518	909,973
Macon.....	224,419	41,119	972,723
Russell.....	230,121	38,728	776,985

In this central belt are some of the finest plantations in the South. The "canebrake lands," very similar in composition and productiveness to what is commonly known in the parlance of the planters as the "rotten limestone" region in Mississippi, (in Hinds and Warren counties,) with a soil remarkable for the state of comminution in which it is found, and underlain by a soft, yellowish-white limestone of the tenacity of dense chalk, which contains about seventy-five per cent. of carbonate of lime, the superincumbent soil itself holding only a minute proportion of lime, with potash, soda, and magnesia. In a former description of this soil the writer of this said : "Its minuteness of subdivision is extraordinary, with no stones or gravel, and few particles larger than one-fortieth of an inch in diameter, giving an enormous surface of these atoms in proportion to mass or quantity. It is so fine as almost to seem impalpable dust when dry ; remains long in solution without deposition ; contains, moderately dry, one-third weight of water, and nearly one-sixth when air-dried ; in the heats of summer it becomes hard, and in roads polishes with friction, while in the rainy season it is a stiff, plastic mud ; its cohesion is twice as great as that of common clays or pine-woods sandy loam ; its adhesive power is in still greater excess ; it attains a higher temperature and cools more slowly than other soils ; water percolates through it less rapidly ; its capillary power acts more slowly, but with longer duration, bringing water from greater depths and raising a given quantity to a higher altitude ; absorbs aqueous vapor more tardily, but one hundred per cent. more in quantity than clay or light sand, and has an astonishing power of absorbing ammonia, condensing more than fifty times its volume of ammoniacal gas." It is worth while to be thus particular in giving a condensed analysis of its qualities as a guide in the selection of a soil for cotton culture. Such a soil is naturally in a condition of *till* that could scarcely be exceeded in common soils with great and expensive labor of the plough, cultivator, and harrow. One valuable peculiarity

possessed by them is their capacity to hold and appropriate the irregular rains of the season, for, equally with heat, the great want of the cotton plant is moisture, though it will not endure stagnant water in the soil.

Alabama had, in 1860, 55,128 plantations and farms, averaging 346 acres, one-third improved, though no less than 696 of them exceeded 1,000 acres each, and 2,016 of them had between 500 and 1,000 acres each. Average price of lands \$8 15 per acre.

It is a fact illustrative in the industrial progress of this State, that, in the ten years preceding the eighth and last census, the "farms" increased in numbers 13,164, and that in the same period the increase in average size was 57 acres, and the increase in the quantity of improved land was 1,950,110 acres. The production of cotton increased from 464,429 to 989,955 bales.

The number of slaves was 435,080, averaging eight (nearly) to each plantation or farm.

Bushels of corn, 33,226,282; bushels of wheat, 1,218,444; number of horses, 127,063; of mules, 111,687; of oxen, 88,316.

The average value of agricultural implements to each farm, \$131.

LOUISIANA.

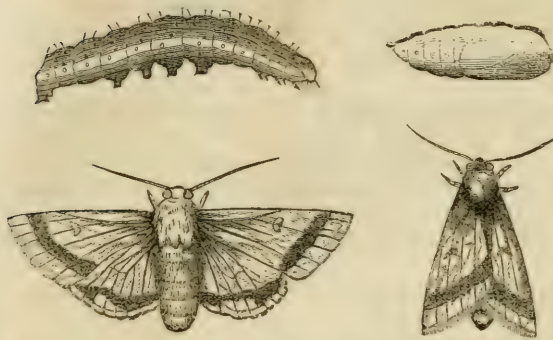
Louisiana is very rich, but with a diversity of character and divided interests. Much of the portion east of the Mississippi is pine barrens; much of the southern is splashed with lakes and lagoons and covered with marshes; the most accessible arable lands are appropriated to cane-growing, leaving the bottoms of the northern and north-western section for cotton-growing. And it is here, Tensas parish, for instance, opposite Grand Gulf, where the greatest results, the largest number of bales in proportion to the amount of improved land in farms is obtained of all the cotton-yielding lands of the United States, with the exception of San Augustine county, in Texas. Claiming only 117,355 acres of improved or "cleared" land, the parish produced 141,493 bales of cotton, while a sufficient proportion was occupied by corn to produce 579,650 bushels; and other crops, buildings, farm yards, and unoccupied patches encroached still further upon the cotton fields, which must have achieved an average between one and a half and two bales per acre.

The following stand first in the list of parishes for quantity of cotton:

	Acres imp.	Bales cotton.	Bushels corn.
Tensas.....	117, 358	141, 493	579, 650
Carroll.....	118, 116	84, 165	556, 081
Concordia.....	87, 406	62, 971	502, 340
Rapides.....	108, 839	49, 168	820, 378
Madison.....	104, 383	44, 870	899, 040
Bossier.....	91, 583	40, 028	552, 824
Nachitoches.....	80, 616	36, 887	459, 978
Point Coupee.....	82, 932	28, 947	507, 510

The size of plantations increased in the last decade from 372 to 536 acres. The average of improved land was increased fifty per cent., and of unimproved one hundred per cent., and the number of farms grew from 13,422 to 17,328. The average valuation is the highest of any of the Gulf States—\$22 per acre; and that of implements and machinery is excessive, averaging \$1,076—a fact due to the expense of the machinery employed in the sugar manufacture. The State comprises an area of nearly thirty millions of acres, of which less than a third is in farms. A large portion of the State is yet public domain, with no inconsiderable portion of water.

INSECTS INJURIOUS TO COTTON PLANTS.—2.



One of the insects most destructive to the cotton plant is the so-called boll-worm, (*Heliothis armigera*,) the caterpillar of which, when young, destroys the flower-buds and young bolls, but when older pierces the half or full-grown boll, where it devours the whole of the interior part, consisting of the unripe seeds and yet unformed cotton, leaving

the outside of the boll uninjured, excepting where the worm has effected an entrance by gnawing a round hole, which is frequently stopped up by the digested portions of the food of the enclosed caterpillar.

The habits of this insect are as follows: The egg is generally deposited singly on the outside of the involucre or outer calyx of the flower or young boll, where it adheres by means of a gummy substance which surrounds the egg when first laid, and which hardens by exposure to the atmosphere. It has been repeatedly stated by planters that the egg was deposited upon the stem, and that the young stem forms the first food of the newly-hatched caterpillar; but after a careful examination of several hundred stems, I found only one egg placed in this situation, and that, from the fact of its being laid upon its side, instead of the base, had evidently been misplaced. The egg is deposited about twilight, and is of a somewhat truncate, oval shape, rather flattened at the top and bottom, and is grooved with projecting ridges on its side, which meet at the top and bottom in one common centre; its color is yellowish or pale straw color until nearly hatched, when it becomes much darker, as the young caterpillar, which is inside, appears plainly through the translucent shell. These eggs may readily be distinguished from the eggs of the cotton caterpillar or cotton army-worm, for which they have frequently been mistaken, by their oval, truncate form and yellow color, while those of the cotton army-worm are very much flattened, and of a beautiful green color, scarcely to be distinguished from the leaf upon which they have been deposited. A single female boll-worm moth, dissected by Dr. John Gamble, contained upwards of five hundred eggs, so that it is no wonder they increase so rapidly. At the commencement of the season only a few moths may be seen flying about in the morning or evening twilight; yet these seemingly harmless moths are the parents of the second and third generations which spread such devastation throughout the cotton fields.

Some eggs of the boll-worm moth hatched in three or four days after being brought in from the field, the enclosed worms gnawing a hole through the shell of the egg and then escaping. They soon commenced feeding upon the tender fleshy substance of the calyx, near the place where the egg had been deposited. When they had gained strength, some of the boll-worms pierced through the calyx, and others through the petals of the closed flower-bud, or even penetrated into the young and tender boll itself. The pistils and stamens of the open flower are frequently found to be distorted and injured without any apparent cause. This has been done by the young boll-worm; when hidden in the unopened bud, it has eaten one side only of the pistil and stamens, so that when the flower is open the parts injured are distorted and maimed, and very

frequently the flower falls without forming any boll whatever. In many cases, however, the young worm bores through the bottom of the flower into the immature boll before the old flower falls, thus leaving the boll and involucre or envelope still adhering to the foot-stalk, with the worm safely lodged in the growing boll. The number of buds destroyed by this worm is very great, as they fall off when quite small, and are scarcely observed as they lie brown and withering on the ground beneath the plant. The instinct of the boll-worm, however, teaches it to forsake a bud or boll about to fall, and either to seek another healthy boll or to fasten itself to a leaf, on which it remains until it has shed its skin, when it attacks another boll in a similar manner, until at length it acquires size and strength sufficient to enable it to bore into the nearly-matured bolls, the interior of which are entirely destroyed by its attacks, as, should it not be completely devoured, rain penetrates through the hole made by the worm, and the cotton soon becomes rotten and will not ripen. These rotted bolls serve also as food or shelter for numerous small insects, which will be mentioned afterwards. One thing is worthy of observation; and that is, whenever a young boll or bud is seen with the involucre or outer calyx (by some called the "ruffle") spread open and of a sickly yellow color, it may safely be concluded that it has been attacked by the boll-worm, and will soon perish and fall to the ground. When the bolls are older they remain adhering to the plant. If many of these fallen "forms" or buds lying on the ground are closely examined, the greater portion of them will be found to have been previously pierced by the boll-worm; some few exceptions, however, may have been caused by minute punctures of plant-bugs, by rains, or adverse atmospheric influences.

The buds injured by the worm may readily be distinguished by a minute hole where it has entered, and which, when cut open, will be found partially filled with small black grains, something like coarse gunpowder, which is nothing but the digested food after having passed through the body of the young worm. The boll-worm when very young is able to suspend itself by a silken thread if blown by the wind or accidentally brushed from the boll or leaf on which it rested. After changing or shedding its skin several times and attaining its full size, the caterpillar descends from the plant and burrows into the earth, where it makes a cocoon of gravel and earth interwoven or cemented together with a gummy silk which issues from its mouth. In this earthen cocoon it changes into the chrysalis state.

Worms which entered the ground in the month of September and October appeared as perfect moths in about one month; but when they descend into the ground later in the season the chrysalides will remain all winter and appear as perfect moths the following spring.

A boll-worm which was bred from an egg found upon the involucre, "or ruffle," of a flower bud, grew to rather more than the twentieth of an inch in length by the third day, when it shed its skin, having eaten in the mean time nothing but the parenchyma, or tender fleshy substance from the outside of the calyx. On the fifth day it pierced through the outer calyx and commenced feeding inside. On the sixth day it again shed its skin, and had increased to about the tenth of an inch in length. On the tenth day it again shed its skin, ate the interior of the young flower bud, and had grown much larger. On the fourteenth day, for the fourth time it shed its skin, attacked and ate into a young boll, and had increased to thirteen twentieths of an inch in length. From this time it ate nothing but the inside of the boll; and on the twentieth day the skin was again shed, and it had grown to the length of an inch and one-tenth, but, unfortunately, died before completing its final change.

These moths probably deposit their eggs on some other plants when cotton is inaccessible. A young boll-worm was found in the corolla of the flower of a squash devouring the pistil and stamens; and as there is a striking similarity be-

tween the boll-worm and corn-worm moth, and their appearance and habits in both caterpillar and chrysalis state are the same, it will, perhaps, prove that the boll-worm may be the caterpillar of the corn-worm moth, and that the eggs are deposited on the young boll as the nearest substitute for unripe corn, and only placed upon cotton when corn has become too hard and old to serve as their food. Colonel B. A. Sorsby, of Columbus, Georgia, has bred both these insects, and pronounces them to be the same, and states, moreover, in support of this theory, that when, according to his advice, the corn was carefully wormed on two or three plantations, the boll-worms did not make their appearance that season on the cotton, notwithstanding that on neighboring plantations they committed great ravages. For the sake of proving this fact I have frequently taken the worms from unripe ears of corn and fed them entirely on cotton bolls, as also the worms from cotton and fed them on corn, and in no case did the change of diet appear to affect the health of the caterpillars in the least, as they went through all their transformations in exactly the same manner, and when the perfect moths made their appearance they could not be distinguished from each other, although I may here observe, that even from the same brood of caterpillars the perfect moths vary considerably in size, color, and markings. The worms, or caterpillars, have six pectoral, eight ventral, and two anal feet, and creep along with a gradual motion quite unlike the looping gait of the true cotton caterpillar; they vary in color and markings, some of them being brown, while others are almost green, with all the intermediate shades. The brown caterpillars generally have a longitudinal yellow band or stripe on each side, and several longitudinal stripes of a darker brown on the back, while the green have a greenish-yellow longitudinal stripe along each side, and are also striped on the back; all are more or less spotted with black, and slightly clothed with short hairs, arising from each wart or black spot. These variations of color are not easily accounted for, as several caterpillars changed color without any apparent cause, being fed upon the same food and in the same box as the others. Several planters assert that in the earlier part of the season the green worms are found in the greatest number, while the dark brown variety are seen later in the autumn, as we know is also the case with the caterpillars of the cotton army-worm.

The upper wings of the moth are of a yellowish clay color, in some of the specimens having a tinge of olive green, but in others of rusty red. There is an irregular dark band running across the wings about the eighth of an inch from the margin, and a crescent-shaped dark spot near the centre; several dark spots, each enclosing a white mark, are also in the broad cross-bands; the under wings are lighter colored, with a broad black border on the margin, and are also distinctly veined with the same color. Near the middle of this black border there is a light yellow clay-colored spot of the same as the rest of the under wings, which is much more distinct in some specimens than in others, but may always be plainly perceived; there is also, in most specimens, a black mark or line in the middle of the under wing; in some specimens, however, it is very indistinct. These moths multiply very rapidly, for, as I have before observed, one female moth may contain at least five hundred eggs, which, if hatched in safety, would rapidly infest a whole plantation, three generations at least being produced in Georgia in the course of one year.

In an interesting communication from Colonel Benjamin F. Whitner, of Tallahassee, Florida, he states that the boll-worm was scarcely known in his neighborhood before the year 1841, and yet in the short period of fourteen years it had multiplied to such an extent as to become one of the greatest enemies to the cotton on several plantations in that vicinity.

Many planters have recommended fires to be lighted in various parts of the plantations at the season when the first moths of this insect make their appearance, as they are attracted by light and perish in great numbers in the flames; and if most of the first brood of females be thus destroyed, their numbers would

necessarily be reduced, as it is the second and third generations which do the principal damage to the crop.

Some successful experiments in killing these moths with molasses and vinegar were made by Captain Sorsby, which I will describe in his own words:

"We procured eighteen common-sized dinner plates, into each of which we put half a gill of vinegar and molasses, previously prepared in the proportion of four parts of the former to one of the latter. These plates were set on small stakes or poles driven into the ground in the cotton field, one to about each three acres, and reaching a little above the cotton plant, with a six-inch square board tacked on the top to receive the plate. These arrangements were made in the evening soon after the flies had made their appearance; the next morning we found eighteen to thirty-five moths to each plate. The experiment was continued for five or six days, distributing the plates over the entire field; each day's success increasing, until the numbers were reduced to two or three moths to each plate, when it was abandoned as being no longer worthy of the trouble. The crop that year was but very little injured by the boll-worm. The flies were caught in their eagerness to feed upon the mixture by alighting into it and being unable to escape. They were probably attracted by the odor of the preparation, the vinegar probably being an important agent in the matter. As the flies feed only at night, the plates should be visited late every evening, the insects taken out, and the vessels replenished as circumstances may require. I have tried the experiments with results equally satisfactory, and shall continue it until a better one is adopted."

As it appears that the moth is attracted by and feeds with avidity upon molasses and vinegar, could not some tasteless and effective poison be mixed with this liquid, so that all the early moths which might partake of it would be destroyed before depositing their eggs, somewhat in the same manner as has been already practiced with great success in the destruction of the tobacco fly? Insectivorous birds also serve as very useful agents in the diminution of the boll-worm and other insects, and should be protected. In proof of this fact, I will state that I have seen a king-bird, or bee-martin, chase and capture a boll-worm moth not ten paces from where I stood, and which I was in pursuit of at the same time; also, that some young mocking-birds, kept in their nest near an open window, were fed daily by their parents with insects, among which were quantities of the boll-worm moth, as was proved by the ground underneath being strewn with their dismembered wings.

THE FLAX APPROPRIATION.

The flax commission having been dissolved some months ago, the Commissioner of Agriculture has transferred the balance of the appropriation, \$10,500, or more than half of the total sum originally placed in his hands, to the treasury of the United States. In presenting an official notice of this fact to the Senate, Senator Anthony used the following language:

"It will be recollected that three years ago an appropriation of \$20,000 was made to test the practicability of cultivating and preparing hemp or flax as a substitute for cotton, under the direction of the Commissioner of Agriculture. This fund has been administered by the Commissioner of Agriculture with very great economy, and with very good results. Although the process of cottonizing flax, or reducing flax to such a condition that it may be spun upon cotton machinery, has not been attained, and, perhaps, from the nature of the fibre, may never be attained—that is a question yet to be settled—very great improvements have been made in the use of flax. It has been applied to many different articles in which before it was unknown. In some it is equal to cotton.

In some it is superior to cotton. In some it is inferior to cotton. But, from its greater cheapness, it produces a very valuable fabric. The Commissioner of Agriculture states that of the fund of \$20,000 he has transferred back \$10,500 to the surplus fund of the treasury; and in these days, when there is a deficiency bill for everything, I thought that so economical an administration was deserving of honorable mention."

TREES IN THE PRAIRIES.

In growing trees upon the western plains peculiar difficulties are encountered, and will doubtless be surmounted, as they have been in Illinois and other prairie regions, in a satisfactory degree. One of these drawbacks is found in the mild and moist climate of autumn and great fertility of soil, which continue growth until the near approach of winter. A correspondent in Otoe county, Nebraska, gives an instance of this kind: "I have to report unfavorably in regard to fruit. There are some young orchards started which have been in bearing a few years. Last season was warm, wet, and growing, up to the last of October. Trees made a rapid growth, and the wood being immature, a sudden freeze in November killed vast numbers of them, as well as many young forest trees that had been started on the prairie for belts and screens. We do not call them winter-killed, for they were killed in autumn. The same thing happened to a more limited extent in the autumn of 1863. Some are discouraged in attempting to raise fruit here; others are of opinion that hardy, slow-growing varieties will succeed, and advocate the seeding of the land to grass in order to check the growth of the tree."

BOATING TO NEW ORLEANS.

The amphibious character of the agriculture of the Ohio river districts in former days is referred to by a southern Indiana correspondent. Tempting as New Orleans prices sometimes were, it is doubtful if alternate experiences, as farmers and boatmen, in the average of cases, proved permanently profitable. Labor on the farm and on the flatboat often proved as incongruous as dissimilar. One tended to stability and steadiness, the other to roving and recklessness. It seems that this singular industrial copartnership exists in some localities yet. The products of the farm are shipped in the autumn, and the boys are kept from school all winter and subjected to unwholesome influences of the river and the city, and the farm business of the winter is entirely neglected. This course, followed for fifty years, is represented as reducing the yield of corn in some cases from seventy-five to ten bushels per acre.

CASTOR OIL BEAN.

In southern Illinois and in Missouri the castor oil bean—*Ricinus communis*—has been cultivated in certain localities with a good degree of success. St. Louis is the market. A casual correspondent, writing from St. Joseph, says that this culture, like that of hemp, has been greatly interfered with during the war by the loss of the slave population and the necessity of providing food products. He says:

"But the prices now offered by manufacturers in St. Louis, viz., \$3 50 to \$4 per bushel, will no doubt increase its cultivation in the future.

"In this climate we have grown the following varieties of the castor oil bean : *Ricinus communis*, growing four feet high, and ripening earliest of all. *R. Spectabilis*, five feet, with dark-green fruit and leaves. *R. Sanguineus*, fruit red and in large clusters, stalks and leaves dark red ; grows seven feet high. *R. Lividus*, stems brilliant red, and fruit lively green ; grows five feet high. *Leucocarpus*, a dwarf variety, growing three feet high, with white fruit. This is an African variety, and we have found it the most prolific. *R. Braziliensis*, with a brownish yellow fruit, growing five feet high.

"We should much like to have experiments made with the different varieties, and reported in the monthly report."

THE PRESERVATION OF WOOD.

A correspondent at Charlestown, West Virginia, gives the results of experiments made some years since while in charge of the working force of one of the railway companies in England :

A cylindrical iron vessel, made of strong boiler plates 30 feet long by 2½ feet in diameter, was fitted with safety valve and door (faced) at one end. After putting in all the timber possible, it was filled with the preserving liquid, and a pressure of 120 pounds to the square inch applied by a hydraulic pump. The wood was allowed to remain under pressure for one hour to insure the penetration of the liquor. The preserving solutions successively used were corrosive sublimate, arsenic, sugar of lead, sulphate of copper, and common salt. Pieces of wood 3 by 3 inches and 2 feet long, each saturated by the above process with one of these ingredients, were driven one foot into the ground under the eaves of a large building. Other pieces were placed in a jack wall, covered up, where timber rotted badly. In each case they were accompanied by pieces of like dimensions unprepared. Six years after, upon examination, those under the eaves were less affected than those in the wall. All were in better condition than the unprepared. They ranged thus :

Corrosive sublimate, and arsenic, best—little choice between them ; sulphate of copper, next best ; sugar of lead, next ; common salt, poorest.

The unprepared was in a state of decay.

INSECTS.

If correspondents, in noting depredations of insects in their localities, will be careful to name them correctly and give clear and accurate descriptions, their notes will prove more valuable and available. It would be still better to send specimens safely secured in boxes or otherwise, to insure their safe arrival. They will come free of postage, and our entomologist would be able to identify the specimens and give their true names. In consequence of the very limited dissemination of entomological knowledge among the masses, the greatest confusion exists as to names and characters of common insects, which such a plan as this would do much towards remedying, and prove highly interesting and very beneficial to agricultural communities.

The following are some of the entomological notes in our correspondence of the present month :

Sarpy county, Nebraska.—The tent caterpillar is not so numerous as for the last three years. Potato bugs (*Doryphora 10 lineata*, or 10-striped spearman) appearing—a soft, red, filthy-looking bug when growing ; hard-shelled, striped when grown ; a little oval and about one third inch in diameter. Remedy—knock

them off and scald, burn, or soap them. Worse on white neshannocks than on others.

Denton county, Maryland.—Wheat is attacked by the fly and joint-worm.

Newcastle county, Delaware.—The wheat is taken almost wholesale by the fly when the use of phosphates is omitted, even though the ground is otherwise good.

Centre county, Pennsylvania.—The caterpillar (probably *Clisiocampa Americana* of Harris) has been very destructive to fruit trees.

Suffolk county, Massachusetts.—No apples on account of the canker-worm.

Adams county, Ohio.—The Hessian fly had commenced its ravages on wheat May 30.

Wells county, Indiana.—Wheat is injured by a small worm.

Lehigh county, Pennsylvania.—Legions of caterpillars (probably *Clisiocampa Americana*) made their appearance this season, devouring leaves and blossoms upon some trees entirely. It is feared these trees will not survive.

Door county, Wisconsin.—No turnip seed. The grasshopper cut off our entire crop, seeds and all, last year.

Perry county, Pennsylvania.—Peach trees on the decline. They grow and begin to bear, then dry away and die. The worms (*Trochilium* or *Ægeria exitiosa*) kill many of them, but some die without and we can discover no cause.

Kent county, Maryland.—Wheat much ravaged by the midge, or Hessian fly.

Van Buren county, Michigan.—Wheat on the opening lands seems to be affected with the Hessian fly—looks yellow at the roots.

In Wisconsin the cut-worm and grasshopper have been troublesome.

CONDITION OF SHEEP.

In many localities sheep are reported as having wintered in fine condition, and fleeces as being heavier than last year. Some exceptions are noted.

On the 17th and 18th of June, a heavy rain storm swept over the central portions of the country. It was especially severe in northern Ohio, and ruinous losses resulted among the newly-shorn flocks. Thousands are reported in single counties. Our data being from voluntary correspondence, not general in its range or systematic in detail, it is useless to attempt an enumeration of the sheep destroyed. The loss, however, was very heavy, and not confined to the weak in constitution or poor in flesh. Some of the finest sheep perished as suddenly as the poorest.

The following are some of the cases of loss in wintering:

Holmes county, Ohio.—"The wet weather of last year appeared to make our pasture of a watery nature, which had a bad effect upon the health of sheep numbers of them being diseased with a watery swelling under the jaws and throat, from which some died in the fall, and some in the winter. Those surviving appear to be now nearly recovered."

Marion county, Ohio.—"Those who fed corn to their sheep through the winter brought them through in good condition. Smaller lots, fed on hay only, fared badly. A large number of lambs were lost during the cold storms of April—enough to build sheds for all the ewes in the county."

Steuben county, Iowa.—"The poor condition of sheep and the loss by death appear to have been owing to the inferior quality of the hay, caused by the very wet season of 1865."

Jefferson county, Iowa.—"The winter and spring have been unusually hard upon sheep, and a great many have died, although well housed and cared for."

Lawrence county, Pennsylvania.—"In travelling through the county a great

many flocks of coarse-wooled sheep were seen, shorn of their wool by a disease called the 'scab,' resulting, possibly, from being badly wintered. Fine-wooled sheep are in fine condition."

In some localities it is stated that the sheep were in poor condition in consequence of the poor quality of last year's hay. In one case "more than half the lambs died, the ewes not giving sufficient milk."

Appanoose county, Iowa.—"Owing to the extreme scarcity and high price of feed last year, the sheep were very poor, and large numbers died of want. This year they are nearly all in excellent condition. Large numbers of stock sheep, are fat enough for mutton, and consequently the crop of wool per head will be greatly in excess of 1865."

Decatur county, Iowa.—"Wool being low, many sheep died from want of attention."

At New Ulm, Minnesota, "sheep were lost for want of shelter and good hay."

CASUAL NOTES.

"*Mast.*"—A correspondent in Braxton, the central county of West Virginia, says there was a very abundant crop of acorns last year, so that the hogs came in very fat, and the quality of the meat was good; and the report is that there is a good prospect for another crop of acorns.

Seed wheat distribution.—Farmers in many localities have acknowledged that their best and earliest wheat is from seed distributed by the Department of Agriculture during the past four years. Some have written of sales of considerable quantities of it at \$3 50 to \$4 per bushel. In some localities the Tappahannock variety has met with excellent success. A correspondent at Superior City, on Lake Superior, writes: "The seed wheat sent by the Commissioner is working well, and is all the wheat that is now growing at the head of the lake."

Late frosts.—In Greene county, Indiana, a frost on the 29th of June is reported—the latest in forty years. The corn was frosted, but recovered from the shock.

Immigration.—A heavy immigration into Kansas from other States is reported. The crops were probably never excelled in that State in luxuriance and promise of plenty, a fact which constitutes another of the magnets which are drawing population in that direction.

Imports of sheep and lambs into Great Britain.—The great demand for sheep and lambs for food, at the present time, is shown by the following statement of imports: In May, 1866, 79,481 head; in May, 1865, 63,284; in May, 1864, 32,816. In the five months ending May 31, total imports of sheep and lambs were 324,273 head; in the corresponding period of 1865, 159,418 head; in 1864, 91,194.

Australian wool.—In 1855 the Australian settlements sent to Great Britain 49,142,306 pounds of wool. In 1865 the total had risen to 109,734,261 pounds.

Imports of onions into Great Britain.—Holland sent 290,812 bushels; Belgium 115,413 bushels; France 106,663 bushels; Portugal 102,969 bushels; and various other countries 13,821 bushels. The total actual value being set down at 490,973 bushels; the average prices varying from 5s. 11d. to 17s. 10d. per bushel; the former having reference to the produce of Portugal, the latter to that of Belgium.

A statement showing the total value of live stock in the following States for the years 1860, 1865, and 1866.

	1860.	January, 1865.	February, 1866.
Maine	\$15,437,533	\$21,539,128	\$23,721,811
New Hampshire	10,924,627	13,560,612	13,862,622
Vermont	16,241,989	24,905,952	27,473,732
Massachusetts	12,737,744	17,638,783	18,263,194
Rhode Island	2,042,044	2,675,029	3,375,917
Connecticut	11,311,079	13,844,574	17,200,930
New York	103,856,296	148,536,690	170,552,506
New Jersey	16,134,693	22,415,429	27,055,185
Pennsylvania	69,672,726	105,862,161	123,847,743
Maryland	14,667,853	19,139,655	20,161,813
Delaware	3,144,706	3,545,607	4,469,869
Kentucky	61,868,237	56,729,634	60,348,250
Ohio	80,384,819	126,979,891	141,215,182
Michigan	23,714,771	47,311,803	52,091,122
Indiana	41,855,539	82,543,704	88,657,071
Illinois	72,501,225	116,588,288	115,459,232
Missouri	53,693,673	44,431,766	49,016,699
Wisconsin	17,807,375	36,911,165	47,635,107
Iowa	22,476,293	66,572,496	71,946,682
Minnesota	3,642,841	8,860,015	12,671,267
Kansas	3,332,450	7,324,659	9,127,306
Nebraska Territory	1,128,771	3,216,312	3,841,164
Total	658,577,284	991,133,353	1,101,994,344

CONDITION OF THE CROPS.

Wheat.—The prospect at the date of the last report was for about three-fourths of a crop. Later returns uniformly favor a higher estimate. Nowhere are material injuries reported from rust, insects, or storms; day by day improvement has been noted in the tillering shoots, in the length and development of the heads, and in the size and weight of the berries.

Spring wheat has been reported in fine condition throughout the country, falling below an average only in Pennsylvania, West Virginia, and Ohio. In half the States it is above the average; and in Missouri, Wisconsin, Kansas, and Nebraska, showing from one to three tenths more than an average.

In view of the poor quality of last year's wheat, and the superior excellence of the present crop, it is reasonable to expect as large a supply of bread as last year, and of better quality.

As was expected, the gloom embodied in the lamentations that greeted the straggling stalks of wheat, as they struggled upwards in early spring, was measurably dispelled under the influence of fine weather in the closing days of May and in the month of June. It was expected for several reasons. There is a natural tendency to a little exaggeration in expressing one's disappointment in such a case. It sometimes happens that farmers seed too heavily in rich soil. These stalks with ample "elbow-room" grew stout and heavy; their roots had abundant nourishment, and a vigorous tillering commenced. This is another of the ways in which it is shown how "nature abhors a vacuum" and seeks to fill it. Alderman Mechi, in England, has carried experiments in their seeding to a degree that would prove a ruinous excess in this country, especially with our careless culture, though he claims fifty bushels of wheat per acre from a half peck of seed. But our correspondents report, concerning these straggling stalks,

that they reverse the national motto, *E Pluribus Unum*, and produce *many* from one, and the berries are heavier, the heads longer, and the farmers are happily disappointed in the harvesting.

In Indiana county, Pennsylvania, it is said, "The backward season makes harvest ten days later than usual, and gives the weevil a chance to work upon it."

Deterioration of seed.—A correspondent in Washington county, Maryland, referring to the enemies of wheat in his region, adds: "In addition to these enemies, a formidable difficulty arises from the repeated use for a series of years of the same variety of seed on the same soil, in the same locality. Each variety of wheat seems to do well here for a series of eight or ten years, then it seems to languish and become more liable to injury from the Hessian fly, the rust, or smut, &c. Whether the declension in the crop is attributable to the fact that each variety of wheat exhausts so much of some particular constituent of the soil that it can no longer flourish as at first, or whether the wheat deteriorates from neglect, inattention, or mismanagement of the farmer, I am unable to determine. Prior to 1836 our farmers had used varieties which failed totally that year to make a remunerative yield. Soon after, some wheat was imported from the Mediterranean, which for some ten to twenty years was cultivated here almost exclusively. In 1858 the crop failed almost entirely. The Lancaster wheat was then introduced, and has been successfully cultivated ever since. This year the 'Lancaster' has suffered much from 'fly;' some also from rust. At seed time last fall we had a dry spell, so that wheat came up badly. That which was sown first and came up well was damaged by 'fly;' the later sown was injured by rust. We estimate our crop this year to be about a half crop; the quality of that which ripened early is good; the later wheat was injured by rust."

Early wheat.—Many correspondents call attention to the necessity for seed wheat that matures early, and thus escapes rust and the ravages of insects. One in Indiana deems it essential to success in wheat-growing. Everywhere it is acknowledged to be a great desideratum. Tens of millions of dollars might be saved to the country by the dissemination of a species ripening reliably ten days earlier than the average. May it not be attained on the principle of selection, by which improvement in species is effected both in vegetable and animal life? Who will essay the improvement?

Injuries.—Some farmers maintain that wheat was killed by a heavy sleet in midwinter, continuing five weeks. while others say that it was alive after that date, but was killed by cold, dry weather in March.

In some parts of Kentucky the injury is attributed to excessive and sudden rains, and severe cold weather, and sudden freezing after heavy rains.

In Missouri injuries by the fly are reported.

The only injuries noticed in Kansas have resulted from the overflow of valleys by heavy rains, in some localities doing essential damage.

From Harrison county, Indiana, comes a statement that there was less than an inch of snow during the entire season. There was much rain instead.

A correspondent in Johnson county, Indiana, attributes the failure of winter wheat, in connexion with this lack of snow and excess of moisture, to the bad seed. The wheat of last year was generally poor, in some localities notoriously so; it did not make good bread, and it could not be expected to possess sufficient vitality to produce a vigorous growth capable of resisting the effects of alternate freezing and thawing.

On the eastern shore of Maryland, a correspondent reports that the crop "was injured by hard freezing when wet in winter, and by a dry, cold March."

In Newcastle county, Delaware, the winter wheat suffered severely through the winter by freezing and thawing, but the spring months have been unusually

favorable for that grain, and it has recovered wonderfully, especially where the use of phosphates was resorted to.

In Warren county, in northwestern Pennsylvania, it is reported: "Although the winter was cold, with but little snow, I never saw winter wheat come out better." Among these highlands, the uniform cold of the season protected wheat from the calamities endured in the milder and more fickle climate of Indiana and other western States.

Correspondents in the west refer to the extraordinary vicissitudes of climate, not only during the past winter, but through the spring up to the time of harvesting. In some localities it was claimed that the injury was done in the spring by rough, cold, variable weather, which continued during April and May, leaving the grain crop in a backward, unpromising condition, when June came in with beautiful "growing weather," and all that was lost was rapidly regained, and "wheat was harvested in splendid order, and will prove a full crop."

Statements of this character come from all sections. Thus the burden of our recent reports is a universal verdict, "better than we expected."

Quality.—The testimony from all quarters renders it certain that the quality will be excellent. An extract or two will show its general character. In Jersey county, Illinois, "the grain is unusually fine and large, and will compare favorably with the grain of 1864." A correspondent in a blighted district, who calculates upon a half crop in his county, acknowledges that its quality is superior, and admits that there will be a sufficiency for seed and bread for the home population, with ordinary prices, but that, under the stimulus of extra high prices, there will be some to send abroad. This superior excellence will not only go far to make up the difference in quantity between the crop of this year and that of 1865, (which difference is far less than was expected on the first of June,) but it will, it is believed, make even more good bread and prove of greater value than the crop of last year. Besides, there has been a saving in consumption, which will help to swell the prospective supply. The poor quality of last year's wheat, and the high price of flour, in connexion with the superior quality of last year's corn, has had its legitimate effect in causing a largely increased use of corn bread, which has been for three years past in certain districts almost entirely unknown, wheat having been actually cheaper than corn.

Winter barley.—This crop is in very nearly the same condition as the wheat. Taken together, the average of the fall-sown will reach nearly nine-tenths, and the spring-sown exceeds an average by nearly a tenth.

Oats.—This crop has been unusually good, almost beyond precedent. In no State will there be less than an average crop, and in one at least, (Kansas,) the returns give promise of twenty-five per cent. more than an average. Rarely is the country, in its length and breadth, blessed with a crop so uniformly liberal in its yield, and so excellent in quality. A remarkable exemption from disease is apparent, though a correspondent in Greene county, Kentucky, writes of "an ordinary crop, quite low, with occasionally an appearance of rust." But notes like this are rather the rule the present season: "During a residence in this county, (Randolph, Indiana,) I have never seen a better prospect for oats, flax and corn."

Pasture and clover.—The condition of pastures is generally above the average. Kansas and Nebraska are more than two tenths above; Minnesota, Iowa, and Missouri, from one to two tenths above; Michigan and Wisconsin, between ten and eleven tenths; Vermont, Rhode Island, New York, and Ohio, an average; the other States slightly below.

Clover suffered by winter-killing, except in the trans-Mississippi States. The loss varies from one to four tenths, as will be disclosed by an examination of the tables. A correspondent from Outagamie county, Wisconsin, says: "The small white clover, our greatest dependence for milch cows, is entirely gone. The month of May was the driest and coldest ever known."

Corn.—With the exception of Maine and New Hampshire, every State reports a greater breadth of corn than usual. Ohio, Indiana, Illinois, Minnesota, Kansas, and West Virginia have each increased their average about ten per cent. Iowa has nearly as great an increase. In several of the States the condition of the crop is an average. In most of them, however, as the tables indicate, the cool weather of the spring gave the crop a bad start, from which it had not fully recovered up to the first week in July. It is generally reported low in altitude owing to the cold spring, but in vigorous condition, and of a deep green color. There is yet ample time, with favorable conditions, to make a productive yield of fine quality, in which case the extra breadth planted would give a very large crop. It is too early in the season to arrive at definite estimates.

Sorghum.—A somewhat diminished acreage of sorghum is indicated. Little is grown in the eastern States, but that little is increased this season. A material increase in New York is shown, but New Jersey and Maryland report a slight decrease. The sorghum-growing States, Indiana and Illinois, show a considerable diminution; so also do Wisconsin and Minnesota. The season thus far has not been very propitious for sorghum, and the reports represent the average condition about one-tenth below the standard of ordinary excellence. Some portions of the State of Kentucky are not yet supplied with manufacturing machinery. In Graves county "not half so much is sown this spring as last year, when quantities of it were destroyed by the frost for lack of manufacturing apparatus. The people have nothing but the ordinary wooden mills."

Flax.—There is nearly an average breadth of flax this season. In condition it is 10 tenths in most of the States. In some of the flax-growing States of the west it is slightly under an average.

Potatoes.—In every State there were more potatoes planted than usual. In Ohio, 15 per cent. more; in Kentucky, 20 per cent.; in Missouri, 25 per cent.; in Kansas, 30 per cent. In condition no States, except Illinois and Minnesota, are reported at less than 10 tenths; and in these States the increased average indicates a prospect for a full average crop. A correspondent in Superior, Wisconsin, says: "I think our potatoes will be as much injured this year by the drought as they have in some years past by the rains."

Beans.—Very nearly an average acreage is reported in slightly better than average condition.

Fruits.—The prospect for apples is not as good as usual. In the northern parts of New England, 10 tenths; in Connecticut, 8 tenths; in New York, $8\frac{1}{2}$ tenths; in Michigan, $9\frac{3}{4}$ tenths; in Missouri, Iowa, and Kansas, 10 tenths each.

No fruit upon our list makes so poor a showing as peaches. (See tables.) New Jersey reports but 16 per cent. of a crop; Ohio, $1\frac{3}{4}$ tenths; Delaware, $2\frac{1}{2}$ tenths; Maryland, 48 per cent.; New York, 8 tenths; Michigan, $7\frac{3}{4}$ tenths. The extreme west makes a better showing.

Pears are in better condition, but give promise of a full crop in only Minnesota and Nebraska.

Grapes have suffered also. Our reports indicate $6\frac{1}{2}$ tenths in Ohio, $9\frac{1}{2}$ tenths in Missouri, $8\frac{1}{2}$ in Illinois, 9 in New York.

There was also a short supply of strawberries and raspberries. As in all other crops this year, the States across the Mississippi take the lead and show more than an average. But the middle and mid-western States produce the principal portion of the crop.

Table showing the condition of the crops on the 1st day of July, 1866.

States.	Average condition of winter wheat.	Average condition of winter rye.	Average condition of winter barley.	Average condition of spring wheat.	Average condition of spring barley.	Average condition of oats.	Average condition of pastures.	Average condition of clover fields.	CORN.	
									Amount planted compared with last year.	Condition of the same.
Maine	9 $\frac{3}{4}$	10	10	10 $\frac{1}{2}$	9 $\frac{5}{8}$	10 $\frac{1}{2}$	9 $\frac{1}{4}$	7	9 $\frac{1}{2}$	9
New Hampshire....	9 $\frac{1}{2}$	10 $\frac{1}{2}$	9	10 $\frac{1}{2}$	10 $\frac{5}{8}$	11	9 $\frac{1}{2}$	8	9 $\frac{3}{4}$	9 $\frac{3}{4}$
Vermont	9 $\frac{1}{4}$	10	8	10 $\frac{1}{2}$	10 $\frac{1}{2}$	10 $\frac{5}{8}$	10	8 $\frac{1}{2}$	10 $\frac{3}{4}$	9 $\frac{3}{4}$
Massachusetts	10	9 $\frac{5}{8}$	10	10	10 $\frac{1}{4}$	10 $\frac{3}{4}$	9 $\frac{3}{8}$	7 $\frac{9}{10}$	10	9 $\frac{3}{8}$
Rhode Island	10	10 $\frac{1}{2}$	.....	.....	10 $\frac{5}{8}$	10 $\frac{1}{2}$	10	6 $\frac{1}{2}$	10	9 $\frac{1}{2}$
Connecticut.....	8 $\frac{1}{2}$	8	7	10	11	11	9	7	10 $\frac{1}{2}$	9
New York	9 $\frac{1}{4}$	9 $\frac{1}{2}$	9	10	10 $\frac{1}{2}$	11	10	9 $\frac{1}{2}$	10	9 $\frac{1}{4}$
New Jersey.....	9 $\frac{1}{2}$	9 $\frac{1}{2}$	.....	10	10 $\frac{1}{4}$	10 $\frac{1}{2}$	9 $\frac{1}{2}$	8 $\frac{1}{2}$	10 $\frac{1}{4}$	9 $\frac{3}{8}$
Pennsylvania	9 $\frac{1}{4}$	9 $\frac{3}{8}$	8 $\frac{1}{2}$	9 $\frac{3}{8}$	9 $\frac{1}{2}$	10 $\frac{1}{4}$	9 $\frac{1}{2}$	8	10 $\frac{3}{4}$	9 $\frac{3}{4}$
Maryland.....	8 $\frac{1}{2}$	9 $\frac{2}{3}$	.....	.....	10 $\frac{1}{2}$	10	9 $\frac{2}{3}$	8 $\frac{1}{2}$	10	8 $\frac{1}{2}$
Delaware.....	10	10	.....	.....	10	10	9	9	10 $\frac{1}{2}$	9
Kentucky	9 $\frac{1}{4}$	8 $\frac{1}{2}$	9	9 $\frac{1}{2}$	9	10 $\frac{1}{2}$	9 $\frac{1}{2}$	9 $\frac{1}{2}$	10 $\frac{5}{8}$	10
Ohio	7	8 $\frac{1}{2}$	6 $\frac{2}{3}$	9 $\frac{1}{2}$	10	10	10	8	11	10
Michigan.....	9 $\frac{1}{4}$	9 $\frac{3}{8}$	9 $\frac{1}{2}$	10 $\frac{1}{2}$	10 $\frac{1}{2}$	11 $\frac{1}{2}$	10 $\frac{1}{2}$	8 $\frac{1}{2}$	10 $\frac{1}{4}$	9 $\frac{1}{2}$
Indiana	9 $\frac{1}{2}$	9 $\frac{3}{4}$	9	10	9 $\frac{3}{8}$	10	9 $\frac{3}{8}$	8 $\frac{2}{3}$	11 $\frac{3}{8}$	9 $\frac{3}{4}$
Illinois	10 $\frac{1}{4}$	10	8 $\frac{1}{2}$	10 $\frac{1}{2}$	10	10 $\frac{1}{2}$	9 $\frac{1}{2}$	8 $\frac{2}{3}$	11	9
Missouri	11 $\frac{1}{2}$	10 $\frac{1}{2}$	9 $\frac{3}{4}$	11	10 $\frac{1}{2}$	11 $\frac{1}{2}$	11 $\frac{2}{3}$	11	13	9 $\frac{3}{4}$
Wisconsin.....	9 $\frac{1}{2}$	9 $\frac{3}{4}$	10 $\frac{1}{2}$	11 $\frac{1}{2}$	11	11	10 $\frac{3}{4}$	9 $\frac{3}{8}$	10	8 $\frac{2}{3}$
Iowa	10	9 $\frac{5}{8}$	9 $\frac{1}{2}$	10 $\frac{1}{2}$	11 $\frac{2}{3}$	11 $\frac{2}{3}$	11 $\frac{2}{3}$	10 $\frac{1}{2}$	10 $\frac{7}{8}$	7
Minnesota	10 $\frac{7}{10}$	10 $\frac{5}{8}$	10	10 $\frac{2}{3}$	10	10 $\frac{1}{2}$	11 $\frac{1}{2}$	10 $\frac{1}{2}$	11	8 $\frac{2}{3}$
Kansas	12 $\frac{2}{3}$	11 $\frac{2}{3}$	11 $\frac{5}{8}$	11 $\frac{1}{2}$	11 $\frac{1}{2}$	12 $\frac{2}{3}$	12 $\frac{1}{2}$	12 $\frac{2}{3}$	11 $\frac{2}{3}$	10
West Virginia.....	6 $\frac{5}{8}$	8 $\frac{1}{2}$	8 $\frac{1}{2}$	8 $\frac{2}{3}$	8 $\frac{5}{7}$	10 $\frac{2}{3}$	9 $\frac{2}{3}$	8 $\frac{1}{2}$	11 $\frac{1}{2}$	10 $\frac{1}{2}$
Nebraska Territory.	9 $\frac{1}{4}$	10 $\frac{2}{3}$	12	13	12 $\frac{2}{3}$	11 $\frac{1}{2}$	12 $\frac{2}{3}$	13 $\frac{1}{2}$	10 $\frac{1}{4}$	8 $\frac{1}{2}$

Table showing the condition of the crops—Continued.

States.	SORGHUM.		FLAX.		POTATOES.		BEANS.		APPLES.	
	Amount planted compared with last year.	Condition of the same.	Amount sown compared with last year.	Condition of the same.	Amount planted compared with last year.	Condition of the same.	Amount planted compared with last year.	Condition of the same.	Amount compared with an ordinary crop.	Condition of the same.
Maine	10	10	9½	10	10½	9¾	10	10	10½	10½
New Hampshire.....			10¾	10	10½	10½	10	9½	10	10
Vermont	10	9	9	10	10¾	10¾	9½	10	10	10¾
Massachusetts	12	9	10	9	10½	10¼	10½	10	9½	8½
Rhode Island					10¾	10¾	10	10	7¾	9½
Connecticut	10	8½	11	10	10½	10	10	9½	8	8½
New York	12½	8¾	9	10	11	10½	9½	10	8½	9½
New Jersey	9¾	10	3½	10½	10¼	10¼	9½	10	10¾	9½
Pennsylvania	10¾	9½	9¾	9½	10½	10½	10	9¾	7½	9
Maryland	8¾	9½	9	10½	10½	10½	10	10	7½	9
Delaware	10½	9	8	8¾	10½	10½	9½	10	9½	9½
Kentucky	9¾	9¾	9¾	10	12	11	9¾	10	6	9
Ohio	10	9½	9¾	10½	11½	11½	10½	9½	7½	8½
Michigan	11¾	9¾	9½	9¾	10¾	10½	8½	9¾	7½	9½
Indiana	9¼	9¾	9½	10½	11	10	9¾	9¾	6½	9
Illinois	7¾	9	10½	9¾	10½	9½	9¼	9¾	8½	9½
Missouri	10½	9½	10¾	9½	12½	11	10½	10	7½	9½
Wisconsin	8	8	9½	10½	10	10	8½	9½	8½	9½
Iowa	9¾	9½	10	10	10½	10¾	10¼	10½	9½	9½
Minnesota	9	8	8¾	9½	10¾	9¾	9¾	9¾	10½	9½
Kansas	10¾	9¾	10	9½	13	12	11	10½	10	10¾
West Virginia.....	10	10	10	10	11	11½	10¼	10	5	6½
Nebraska Territory..	8½	8½			10	10¼	10¼	10½	6½	8½

Table showing the condition of the crops—Continued.

States.	PEACHES.		PEARS.		GRAPES.		STRAWBER- RIES.		RASPBER- RIES.	
	Amount of peaches com- pared with an ordi- nary crop.	Condition of the same.	Amount of pears com- pared with an ordi- nary crop.	Condition of the same.	Amount of grapes com- pared with an ordi- nary crop.	Condition of the same.	Amount of strawberries compared with an or- dinary crop.	Condition of the same.	Amount of raspberries compared with an or- dinary crop.	Condition of the same.
Maine			9 $\frac{1}{4}$	9 $\frac{5}{7}$	9 $\frac{1}{2}$	9 $\frac{3}{4}$	8 $\frac{2}{3}$	9	9 $\frac{1}{2}$	10
New Hampshire....	2 $\frac{2}{3}$	3	9	9 $\frac{2}{3}$	9 $\frac{1}{3}$	9 $\frac{1}{3}$	8 $\frac{1}{3}$	8 $\frac{3}{4}$	10	10 $\frac{1}{2}$
Vermont			6 $\frac{2}{3}$	8 $\frac{2}{3}$	8 $\frac{2}{3}$	9 $\frac{1}{3}$	9 $\frac{1}{4}$	10 $\frac{2}{3}$	10	10
Massachusetts.....	4 $\frac{1}{2}$	4 $\frac{1}{2}$	9 $\frac{1}{2}$	9 $\frac{7}{10}$	9 $\frac{1}{3}$	9 $\frac{1}{2}$	8	8 $\frac{2}{3}$	10 $\frac{1}{3}$	10 $\frac{1}{4}$
Rhode Island.....	1 $\frac{2}{3}$	1 $\frac{2}{3}$	9 $\frac{1}{2}$	9 $\frac{1}{8}$	10	10	8	9	10	10
Connecticut.....	2	4	9 $\frac{1}{2}$	10	9	9	8	9	10	10
New York	8	8 $\frac{1}{2}$	8 $\frac{1}{2}$	9 $\frac{1}{4}$	9	9	9	9	10 $\frac{1}{2}$	9 $\frac{3}{4}$
New Jersey.....	1 $\frac{11}{10}$	4 $\frac{3}{10}$	8 $\frac{1}{2}$	9 $\frac{1}{2}$	8 $\frac{1}{2}$	9 $\frac{1}{3}$	8 $\frac{1}{2}$	9 $\frac{1}{2}$	8 $\frac{1}{2}$	9 $\frac{1}{4}$
Pennsylvania	6 $\frac{1}{3}$	8 $\frac{1}{4}$	7	8 $\frac{3}{4}$	8	9	8	9	9 $\frac{1}{2}$	9 $\frac{3}{4}$
Maryland.....	4 $\frac{1}{3}$	8 $\frac{1}{2}$	6 $\frac{2}{3}$	8 $\frac{2}{3}$	7 $\frac{2}{3}$	9	6 $\frac{1}{3}$	8 $\frac{2}{3}$	8 $\frac{1}{3}$	9 $\frac{1}{3}$
Delaware	2 $\frac{1}{3}$	5 $\frac{1}{3}$	6 $\frac{1}{3}$	7	9 $\frac{1}{3}$	9 $\frac{1}{3}$	8	8 $\frac{1}{3}$	7 $\frac{2}{3}$	7 $\frac{2}{3}$
Kentucky	5	8	6	8 $\frac{2}{3}$	10	10 $\frac{1}{6}$	9	8 $\frac{2}{3}$	9	9 $\frac{2}{3}$
Ohio	1 $\frac{2}{3}$	3 $\frac{3}{4}$	7	8 $\frac{2}{3}$	6 $\frac{1}{2}$	9 $\frac{1}{2}$	7 $\frac{1}{3}$	8 $\frac{1}{3}$	9 $\frac{1}{6}$	9 $\frac{2}{3}$
Michigan	7 $\frac{2}{3}$	9 $\frac{1}{3}$	7 $\frac{1}{3}$	9 $\frac{2}{3}$	7 $\frac{2}{3}$	9	8	9 $\frac{1}{2}$	9 $\frac{1}{3}$	9 $\frac{6}{7}$
Indiana	3 $\frac{1}{2}$	6 $\frac{1}{2}$	5 $\frac{1}{2}$	9	7 $\frac{1}{3}$	9 $\frac{2}{3}$	8	9 $\frac{1}{6}$	9 $\frac{1}{4}$	9 $\frac{1}{9}$
Illinois	5	6	8 $\frac{1}{6}$	9 $\frac{1}{4}$	8 $\frac{1}{2}$	9 $\frac{1}{3}$	9 $\frac{1}{3}$	9 $\frac{2}{3}$	9 $\frac{2}{3}$	9 $\frac{1}{5}$
Missouri.....	6 $\frac{1}{3}$	8 $\frac{1}{3}$	7 $\frac{1}{2}$	9 $\frac{1}{2}$	9 $\frac{1}{2}$	9 $\frac{2}{3}$	11 $\frac{1}{2}$	10 $\frac{2}{3}$	10 $\frac{2}{3}$	10 $\frac{1}{3}$
Wisconsin	2	2 $\frac{1}{2}$	7 $\frac{3}{4}$	8 $\frac{1}{3}$	10 $\frac{1}{6}$	10	10 $\frac{1}{3}$	10	10 $\frac{1}{4}$	10 $\frac{1}{4}$
Iowa	5	4 $\frac{1}{3}$	8 $\frac{1}{2}$	9 $\frac{2}{3}$	10 $\frac{2}{3}$	10 $\frac{1}{3}$	9 $\frac{1}{3}$	11	10 $\frac{1}{2}$	10 $\frac{1}{2}$
Minnesota.....	10	10	10	10	10	9 $\frac{1}{2}$	11	10 $\frac{3}{4}$	10	10 $\frac{2}{3}$
Kansas	13	10 $\frac{1}{2}$	9 $\frac{1}{6}$	11 $\frac{1}{3}$	11 $\frac{1}{2}$	10 $\frac{1}{2}$	14 $\frac{1}{2}$	11 $\frac{2}{3}$	13	12
West Virginia.....	6 $\frac{1}{2}$	6	6	7 $\frac{1}{3}$	9 $\frac{1}{3}$	9 $\frac{1}{3}$	7 $\frac{1}{2}$	8 $\frac{1}{3}$	9 $\frac{2}{3}$	9 $\frac{1}{2}$
Nebraska Territory.	5	5	10	9 $\frac{1}{3}$	9 $\frac{1}{3}$	8 $\frac{1}{3}$	13 $\frac{2}{3}$	13 $\frac{1}{2}$	12 $\frac{1}{4}$	12 $\frac{1}{4}$

PRODUCTION AND CONSUMPTION OF WOOL.

An erroneous impression exists in many minds relative to the amount of wool manufactured in this country. Because almost fabulous increases have been effected in army enlistments, the contraction of national indebtedness, and in the popular estimate of national power, it is thoughtlessly assumed that the number of pounds of wool worn annually per capita is augmented in like proportion. There has been much annual waste by a million of men in arms, but they constituted but three per cent. of the population; and with a plethora of currency, and high prices of labor, the people at large were able to wear more woollens. This has increased the per capita consumption from $4\frac{1}{2}$ or 5 pounds to 6 pounds per annum at a fair estimate.

It should be remembered that in 1830 the value of woollen manufactures was but \$14,528,166; in 1840 it was \$20,696,999; in 1850, \$43,207,545; in 1860, \$68,865,965, in which 80,386,572 pounds of wool were consumed. This was the highest figure ever attained before the war. Now, examine the facts of later consumption of wool in manufacture, and the results will show a progress sufficiently encouraging without indulging in vague and wild estimates which are far beyond the truth.

The following tables are the official figures representing the wool imports from July 1, 1861, to June 30, 1865, inclusive—four years. They show an aggregate of wool and shoddy (27,155,133 pounds of the latter) amounting to 279,183,049 pounds. This, with the wool produced in those four years, constitutes nearly the amount manufactured. To be exact, something should be deducted from the aggregate of wool, on account of the greater amount on hand July 1, 1865. The available wool product of the United States is, therefore, fairly estimated as follows:

	Pounds.
1861.....	55, 000, 000
1862.....	67, 500, 000
1863.....	82, 500, 000
1864.....	95, 000, 000
Total.....	<u>300, 000, 000</u>

The wool of the above-mentioned years, and the imports referred to, less the difference in the amount on hand, comprise the amount manufactured in that period.

	Pounds.
Amount produced.....	300, 000, 000
Amount imported.....	<u>279, 183, 049</u>
Total.....	<u>579, 183, 049</u>
Yearly average for consumption.....	<u>144, 795, 762</u>

The estimate of consumption in the calendar year of 1864, made by this department, was 160,000,000 pounds, and 120,000,000 of that aggregate were obtained from actual returns of manufacturers. It is possible that the total aggregate, had it all been obtained from actual returns, would have exceeded slightly 160,000,000 pounds; but the above showing of a wool supply not exceeding 145,000,000 pounds per annum for the four years, would corroborate

strongly the presumed accuracy of the estimate of last year. In the earlier part of the war the mills were in operation night and day; in the latter part their running time was less, but their number and capacity were greater.

Thus it is seen that we manufactured double the amount of wool that we did in 1860, and that during the entire period of the war the increase over the then unprecedented consumption of that year averaged fully seventy-five per cent.

In addition to the amount of wool manufactured in this country, the amount of woollens imported must be taken into consideration. The sum total, as appears from the following tables, was \$87,782,918 during the same period. This is \$21,945,729 for each year.

It will be readily seen from these figures that an average supply, in time of peace, of all needed woollens can very soon be attained if wool of the United States is not displaced by low-priced foreign wools.

Statement of wool imported during the year ending June 30, 1862.

Countries.	Wool.		Shoddy or flocks.	
	Pounds.	Dollars.	Pounds.	Dollars.
Russia and dependencies	292,089	36,859		
Hamburg and Bremen	208,799	35,037	1,875,930	107,300
Holland and Dutch colonial possessions	24,730	3,255	51,154	3,044
Belgium	1,023,439	157,893	643,901	38,337
England, Scotland, and Ireland	16,006,963	2,699,049	3,322,658	271,725
Canada and British North American possessions	100,072	11,149	1,135	110
British West Indies and South American possessions	44,651	5,007	1,980	125
British possessions in Africa and Mediterranean	3,920,257	665,480		
British East Indies and Australia	783,670	112,118		
France	4,438,429	813,373	391,728	21,651
Spain and Canary Islands	425,803	63,525		
Spanish West Indies, Cuba, and Porto Rico	94,808	9,680		
Portugal and Portuguese colonies	129,275	18,106		
Italy	429,793	59,433	2,588	84
Austria	112,610	16,983		
Turkey in Europe, Asia, and Egypt	3,710,506	392,616		
Mexico	31,209	3,560		
New Granada and Venezuela	207,417	22,193		
Brazil	618,481	88,574		
Uruguay	14,061	1,386		
Buenos Ayres	5,786,868	838,850		
Chili	2,793,501	289,895		
China and Japan	7,714	857		
Sandwich and Pacific islands	10,926	1,112		
Liberia and Western Africa	438,170	78,777		
Total dutiable wool	41,654,241	6,624,767	6,291,077	442,376
Under reciprocity treaty	1,916,785	569,839		
Total	43,571,026	7,194,606		

Statement of wool imported during the year ending June 30, 1863.

Countries.	Wool.		Shoddy.	
	Pounds.	Dollars.	Pounds.	Dollars.
Russia and dependencies	1,758,367	275,651	68,412	5,470
Hamburg and Bremen	356,461	85,690	2,179,508	137,066
Holland and Dutch colonial possessions	88,619	11,593	26,186	1,627
Belgium	2,988,889	493,312	691,326	45,213
England, Scotland, and Ireland	17,619,123	3,384,866	3,652,569	325,382
Gibraltar and Malta	598,241	67,341		
Canada and British North American possessions	52,872	9,243	15,789	1,125
British West Indies, Central and South America	8,610	905		
British possessions in Africa	6,711,975	1,179,707		
British East Indies and Australia	118,234	16,753		
France	9,643,764	1,632,843	1,195,078	62,977
Spain and Canary Islands	981,468	152,730	6,055	292
Spanish West Indies, Cuba, and Porto Rico	72,409	11,577		
Portugal and colonies	167,903	27,492		
Italy	328,284	51,038	13,518	495
Turkey in Europe and Asia	4,213,473	618,776		
Mexico	1,226,820	155,450		
South America	22,481,521	3,168,434	19,160	1,587
China and Japan	19,750	2,287		
Sandwich Islands and whale fisheries	38,906	4,954		
Ports in Western Africa	2,442,065	421,522		
Total dutiable wool	71,917,754	11,772,164	7,867,601	581,234
Under reciprocity treaty	1,980,053	781,867		
Total	73,897,807	12,554,031		

Statement of wool imported during the year ending June 30, 1864.

Countries.	Wool.		Shoddy or flecks.	
	Pounds.	Dollars.	Pounds.	Dollars.
Russia and dependencies	4,643,305	801,291		
Denmark, Norway, and Swedish West Indies	44	3		
Hamburg and Bremen	390,142	106,723	1,850,283	130,852
Holland colonial possessions	16,006	1,615	7,989	579
Belgium	1,511,347	343,941	697,012	51,273
England, Scotland, and Ireland	13,099,501	2,715,843	4,944,133	379,461
Gibraltar, Malta, and Greece	244,678	38,236		
Canada and British North American provinces	12,936	2,579	44,005	3,654
British West Indies and Central and South America	1,101	166		
British possessions in Africa	13,717,900	2,415,145		
British Australia and East Indies	864,548	177,209		
France	10,945,299	1,771,423	541,200	53,920
Spain and Canary Islands	179,722	28,734		
Spanish West Indies, Cuba, and Porto Rico	5,529	1,255		
Portugal and colonies	230,914	38,407		
Italy	1,261,078	65,400	48,481	1,756
Turkey in Europe, Asia, and Egypt	5,534,693	805,115		
Mexico	702,676	96,111		
Central America	114	21		
South America	31,134,935	4,729,014	288	19
China and Japan	63,069	7,666		
Sandwich Islands and whale fisheries	169,838	30,272		
Other Pacific ports	8,522	1,236		
Other ports in Africa	2,455,565	417,735		
Total dutiable wool	87,193,462	14,595,140	8,133,391	621,514
Under reciprocity treaty	3,202,642	1,328,851		
Total	90,396,104	15,923,991		

Statement exhibiting the quantity and value of wool imported into the United States during the year ending June 30, 1885.

Countries.	Wool on the skin and wool skins.		Wool: value 12 cents per pound or less.		Wool: value over 12 cents and not over 24 cents per pound.		Wool: value over 24 cts. and not over 32 cts. per pound.		Wool: value over 32 cents per pound.		Wool, scoured: value over 32 cents per pound.		Woolen flecks, or shoddy.	
	Dollars.	Pounds.	Dollars.	Pounds.	Dollars.	Pounds.	Dollars.	Pounds.	Dollars.	Pounds.	Dollars.	Pounds.	Pounds.	Dollars.
Russia on the Baltic and North Seas.		212,770	27,685	258,836	54,392									
Russia on the Black Sea.		1,086,432	111,166	1,190,441	929,315									
Danish West Indies.	79	4,700	538										1,986,731	92,447
Hamburg.													175,589	13,111
Bremen.	1,656												6,354	351
Holland.														
Dutch West Indies.	140	9,617	1,060	9,430	367								317,718	26,115
Belgium.		6,413	853	31,113	6,370								2,806,963	256,465
England.	2,408	676,668	74,032	1,298,714	260,495								1,900	210
Gibraltar.				71,573	15,658									
Canada.														
British Am. possessions on the Pacific.		6,302	616											
British West Indies.	851	1,637	101	55,388	9,580									
British possessions in Africa.	55,297	32,290	3,807	8,279,973	1,529,989									
British East Indies.		138,860	16,611	605,573	127,856									
Australia.	3,892			408,592	90,573									
France: Atlantic.														
France: Mediterranean.		111,305	15,851	737,290	126,698								179,271	20,307
Spain.				291,985	38,406								28,632	1,369
Portugal.		2,009	131											
Cape de Verde Islands.		1,874	211											
Italy.														
Austria.				63,107	13,892									
Greece.				32,946	7,527									
Turkey in Europe.		234,832	29,792											
Turkey in Asia.		135,007	10,758											
Other ports in Africa.		353,240	41,589	102,300	20,072									
Hayti.		615,719	93,188	895,036	151,878									
Mexico.	90													
Central America.	1,468	257,909	29,371	81,481	14,651									
New Granada.														
Venezuela.	9	47,132	4,353	21,020	4,391									
Brazil.														
Colombia.		201,952	29,380	615,417	90,641									
Costa Rica.														
Argentine Republic.	2,567	188,366	19,022	375,896	177,979									
Chile.	39,470	9,839,618	1,199,056	6,244,271	1,024,697									
Sandwich Islands.		3,019,891	395,581	312,612	64,614									
China.		3,236	365	28,497	4,783									
Countries not enumerated.				906	125									
Total dutiable.	108,593	17,297,247	2,012,175	22,981,168	4,144,262								4,863,064	410,395

Wool imported under reciprocity treaty, 3,486,079 pounds; value, \$1,527,275. Total, 43,858,154 pounds; value, \$7,728,383, exclusive of wool on the skin and shoddy.

Years.	WOOL.		SHODDY OR FLOCKS.	
	Pounds.	Dollars.	Pounds.	Dollars.
1862.....	41,654,241	6,424,767	6,291,077	442,376
1863.....	71,917,754	11,772,064	7,867,601	581,234
1864.....	87,193,462	14,595,140	8,133,391	621,514
1865.....	40,372,075	6,201,108	4,863,064	410,395
Total.....	241,137,532	38,993,079	27,155,133	2,055,519

This is the amount of wool bearing a duty, which has been imported in this period. In addition, the amount introduced free under the reciprocity treaty with Great Britain is as follows :

Years.	Pounds.	Dollars.	Cents per pound.
1862.....	1,916,785	569,839	29.7
1863.....	1,989,053	781,867	39.5
1864.....	3,202,642	1,328,851	41.4
1865.....	3,486,079	1,527,275	43.8
Total.....	10,585,559	4,207,832	39.6

The total foreign supply of our woollen manufactures in the four years reported was, therefore, as follows :

	Pounds.	Cost.
Dutiable wool.....	241,137,532	\$38,993,079
Free from Canada.....	10,585,559	4,207,832
Free in 1862 from other countries.....	304,825	55,539
Shoddy.....	27,155,133	2,055,519
Total.....	279,183,049	45,311,969

Statement of woollens imported for four years ending June 30, 1865.

	1862.	1863.	1864.	1865.
Woollen cloths and shawls.....	\$5,547,644	\$5,147,404	\$10,698,035	\$5,257,819
Blankets.....	1,945,707	1,297,864	749,793	838,741
Woollen and worsted yarns.....	372,523	383,011	434,549	393,130
Delaines and dress goods.....	17,229	1,744,639	10,069,768	7,817,139
Carpets.....	466,596	1,016,562	1,658,380	471,659
Flannels.....	30,798	-----	457,410	83,329
Felt and lasting.....	68,485	-----	102,910	87,213
All others.....	6,435,412	10,822,145	7,968,491	5,398,533
Total.....	14,884,394	20,411,625	32,139,336	20,347,563

Total woollens imported, 1862.....	\$14,884,394
Total woollens imported, 1863.....	20,411,625
Total woollens imported, 1864.....	32,139,336
Total woollens imported, 1865.....	20,347,563

Total for four years..... 87,782,918

Statement of exports of wool and woollens.

Years.	PRODUCT OF UNITED STATES.			PRODUCT OF FOREIGN COUNTRIES.		
	Wool.		Woollen goods.	Wool.		Woollen goods.
	Pounds.	Dollars.	Dollars.	Pounds.	Dollars.	Dollars.
1861		237, 846	-----	199, 226	56, 432	-----
1862	1, 153, 388	296, 225	-----	332, 953	76, 708	221, 570
1863	355, 722	178, 434	-----	414, 427	109, 403	206, 127
1864	155, 482	66, 358	81, 943	223, 475	134, 634	120, 190
1865	446, 182	254, 721	132, 544	658, 582	288, 501	431, 619

The exports, as heretofore, are of trifling amount. The exports of woollen goods of American manufacture were scarcely deemed worthy of separate enumeration, until 1864, in official summaries.

AGRICULTURAL EXPORTS.

Statement of the exports of the growth and agricultural products of the United States, with their immediate manufactures, for the years ending June 30, 1862, and June 30, 1863.

Products and manufactures.	1862.		1863.	
	Quantity.	Value.	Quantity.	Value.
Of animals:				
Hogs.....number..	3, 306	\$23, 562	9, 467	\$96, 363
Pork.....tierces..	2, 102	3, 980, 153	1, 155	4, 334, 775
Do.....barrels..	305, 949		326, 119	
Hams and bacon.....pounds..	141, 212, 786	10, 290, 572	218, 243, 609	18, 658, 250
Lard.....pounds..	118, 573, 307	10, 004, 521	155, 336, 596	15, 755, 570
Lard oil.....gallons..	239, 608	148, 056	1, 259, 063	983, 349
Horned cattle.....number..	3, 634	197, 019	5, 509	236, 547
Beef.....tierces..	57, 234	2, 017, 077	56, 373	2, 185, 921
Do.....barrels..	50, 171		61, 739	
Tallow.....pounds..	46, 773, 768	4, 026, 113	63, 792, 754	6, 738, 466
Hides.....		518, 687		355, 855
Butter.....pounds..	26, 691, 247	4, 164, 344	35, 172, 415	6, 733, 743
Cheese.....pounds..	34, 052, 678	2, 715, 892	42, 045, 054	4, 216, 804
Candles.....pounds..	6, 100, 029	901, 330	6, 838, 353	1, 187, 864
Soap.....pounds..	9, 986, 984	636, 049	9, 097, 664	736, 524
Horses.....number..	1, 534	157, 442	1, 296	132, 542
Mules.....number..	3, 237	212, 187	3, 561	332, 233
Leather and morocco skins.....		13, 049		18, 719
Leather.....pounds..	1, 775, 556	389, 007	2, 203, 284	634, 574
Boots and shoes.....pairs..	679, 594	721, 241	1, 214, 468	1, 329, 009
Sheep.....		34, 600		39, 504
Wool.....pounds..	1, 153, 388	296, 225	355, 722	178, 434
Skins and furs.....		794, 407		2, 226, 275
Wax.....pounds..	142, 312	47, 383	253, 901	80, 899
Apples.....barrels..	66, 767	238, 923	174, 502	364, 628
Potatoes.....bushels..	417, 138	306, 599	517, 530	413, 581
Onions.....		90, 412		122, 422

Statement—Continued.

Products and manufactures.	1862.		1863.	
	Quantity.	Value.	Quantity.	Value.
Breadstuffs:				
Indian corn.....bushels..	18,904,898	\$10,387,383	16,119,476	\$10,592,704
Indian meal.....barrels..	253,570	778,344	257,948	1,013,272
Wheat.....bushels..	37,289,572	42,573,295	36,160,414	46,754,195
Flour.....barrels..	4,882,033	27,534,677	4,390,055	28,366,069
Rye meal.....barrels..	14,463	54,488	8,684	38,067
Rye, oats, &c.....		2,364,625		1,833,757
Rice.....		156,899		83,404
Biscuit or ship-bread.....		490,942		582,268
Cables and cordage.....cwt..	19,390	199,669	29,011	409,050
Cotton, Sea Island.....pounds..	66,443	{ 1,180,113 }	{ 527,747 }	{ 6,652,405 }
other kinds.....pounds..	4,998,121			
Cotton piece goods:				
Printed or colored.....		578,500		630,558
White, other than duck.....		508,004		254,751
Duck.....		221,685		69,526
All other manufactures of.....		1,629,275		1,951,576
Clover-seed.....bushels..	66,064	295,255	389,554	2,185,706
Flax-seed.....bushels..	15	59	40,759	96,805
Linseed oil.....gallons..	25,062	20,893	25,131	29,861
Oil cake.....		875,841		1,277,735
Hemp.....tons..	124	8,300	546	70,348
all manufactures of.....		31,940		123,656
Ginseng.....pounds..	630,714	408,590	372,945	295,129
Hops.....pounds..	4,851,246	663,308	8,864,081	1,733,265
Spirits of turpentine.....gallons..	43,507	54,691	58,565	143,777
Salt.....bushels..	397,506	228,109	584,901	277,838
Beer, ale, porter, and cider.....		54,696		129,176
Spirits from grain.....gallons..	768,295	328,834	2,633,391	1,390,610
from molasses.....gallons..	2,496,220	715,694	2,908,436	1,064,717
from other mat's.....galls..	3,956,359	1,577,909	1,855,098	950,245
Molasses.....gallons..	45,009	21,914	39,290	19,465
Vinegar.....gallons..	268,927	29,701	256,956	34,431
Sugar, brown.....pounds..	1,284,849	90,022	380,348	31,497
Sugar, refined.....pounds..	1,470,403	147,397	3,214,661	361,034
Tobacco.....		12,325,356		19,752,076
Tobacco, manufactured.....	4,071,963	1,068,730	7,025,248	3,384,544
Snuff.....pounds..	38,839	7,914	44,924	13,633
Wood and its products:				
Staves and heading.....M..	{	7,917,417		14,342,058
Shingles.....M..				
Boards, plank and scantling.....				
M feet.....				
Hewn timber.....tons..	{			
Other lumber.....				
Oak bark and other dyewood.....				
Manufactures of wood.....				
Ashes, pot and pearl.....cwt..	74,895	457,049	61,313	513,704
Tar and pitch.....barrels..	9,765	55,884	11,956	102,566
Rosin and turpentine.....barrels..	65,441	293,400	17,025	237,991

Statement of the exports of the growth and agricultural products of the United States, with their immediate manufactures, for the years ending June 30, 1864, and June 30, 1865.

Products and manufactures.	1864.		1865.	
	Quantity.	Value.	Quantity.	Value.
Of animals:				
Hogs number..	9,199	\$86,907	1,400	\$12,771
Pork tierces ..			838	
Do barrels ..	317,537	5,828,030	207,294	6,843,135
Hams and bacon ... pounds..	110,886,446	12,323,327	45,990,712	10,521,702
Lard do.....	97,190,765	11,260,728	44,342,295	9,167,435
Lard oil gallons..	440,546	377,994	99,250	155,454
Horned cattle number..	6,191	117,573	9,588	159,179
Beef tierces ..			50,392	
Do barrels ..	178,332	3,023,018	59,822	3,304,771
Tallow pounds ..	55,197,914	6,215,260	30,622,865	4,979,135
Hides number ..	56,071	305,111	205,950	1,023,596
Butter pounds ..	20,895,435	6,140,031	21,388,185	7,234,173
Cheese do.....	47,751,329	5,638,007	53,089,468	11,684,927
Candles do.....	5,765,869	1,088,882	5,017,712	1,259,168
Soap do.....	8,185,088	790,872	7,327,834	983,477
Horses number ..	821	72,674	690	110,270
Mules do.....	15	2,488	350	52,115
Fine leather and morocco, skins ..		21,108		150,828
Leather pounds ..	824,762	290,657	1,287,407	517,717
Boots and shoes pairs ..	755,792	1,415,775	522,308	2,023,210
Sheep number ..	9,301	39,185	13,782	72,198
Wool pounds ..	155,482	66,358	466,182	254,721
Skins and furs		1,795,417		1,648,863
Wax pounds ..	341,458	170,418	338,776	261,381
Apples barrels ..	183,969	487,140	120,063	479,256
Potatoes bushels ..	463,212	473,911	510,344	724,593
Onions		136,260		220,694
Breadstuffs:				
Indian corn bushels ..	4,096,684	3,353,280	2,812,726	3,679,133
Indian meal barrels ..	262,357	1,349,765	199,419	1,489,886
Wheat bushels ..	23,681,712	31,432,133	9,937,152	19,397,197
Flour barrels ..	3,557,347	25,588,249	2,604,542	27,222,031
Rye meal do.....	6,999	37,991	3,935	32,438
Rye and small grains. bushels..	893,809	957,394	691,152	846,444
Rice barrels ..	5,442	84,217	2,395	63,430
Biscuit or ship bread ..		660,324		771,952
Cables and cordage cwt..	39,945	553,497	52,419	972,348
Cotton, Sea-island pounds..	132,521	127,783	330,584	296,179
other kinds do.....	11,860,390	9,768,071	6,276,582	5,424,370
Cotton piece goods:				
Printed or colored	1,596,235	401,411	1,080,521	618,223
White, other than duck ..	177,065	56,639	100,265	44,742
Duck	62,621	50,239	77,618	101,796
All other man'fact'r's of cotton ..		948,612		2,566,821
Clover-seed bushels ..	2,384,857	501,175	2,169,426	446,845
Flax-seed do.....	1,708	5,808	39,369	120,091
Linseed oil gallons ..	143,301	81,751	64,913	110,156
Oil-cake	60,811	1,609,833	36,512	2,267,393
Hemp tons.....	1,751	246,257	2,111	259,393
all manufactures of		93,222		119,738
Ginseng pounds ..	360,950	474,920	414,507	547,653
Hops do.....	5,851,165	1,217,075	3,662,734	1,348,263
Spirits of turpentine... gallons..	32,548	87,988	42,518	95,747
Salt bushels ..	635,519	296,088	582,803	355,469

Statement—Continued.

Products and manufactures.	1864.		1865.	
	Quantity.	Value.	Quantity.	Value.
Of animals:				
Beer, ale, porter, and cider.....		\$126,317		\$163,151
Spirits from molasses.....gallons..	1,180,641	527,115	1,149,859	708,134
Spirits from other material.do....	369,222	332,786	218,551	394,770
Molasses.....do.....	47,455	23,239	28,221	16,308
Vinegar.....do.....	216,991	41,825	136,414	46,100
Sugar, brown.....pounds..	525,151	65,368	116,240	20,617
Sugar, refined.....do.....	1,803,332	259,937	1,309,522	284,906
Tobacco.....		22,845,936		41,592,138
Tobacco, manufactured.....	8,587,472	3,631,070	7,297,878	3,580,245
Snuff.....pounds..	28,277	16,813	93,159	39,129
Wood and its products:				
Staves and heading.....thousand.	44,103	2,458,266	33,029	2,911,310
Shingles.....do.....	30,344	137,222	33,034	173,760
Boards, plank and scantling, M feet..	132,298	3,064,264	158,774	4,340,664
Hewn timber.....tons..	6,742	87,289	4,133	69,699
Other lumber.....		1,642,976		3,422,719
Oak bark and other dyewood.....		194,575		158,495
Other manufactures of wood.....		865,281		1,254,888
Ashes, pot and pearl.....cwt..	48,904	468,626	52,677	727,229
Tar and pitch.....barrels..	7,156	70,782	11,529	76,034
Rosin and turpentine.....do....	2,418	55,551	11,232	157,662

Recapitulation of exports of the growth and agricultural products of the United States, and their immediate manufactures, from 1856, to 1865, inclusive.

	1856.	1857.	1858.	1859.	1860.
Animal productions...	\$21,411,900	\$20,593,413	\$19,946,411	\$17,602,413	\$24,666,798
Breadstuffs.....	59,010,219	57,915,232	35,569,068	23,562,169	26,989,709
Wood and its products.....	9,566,037	13,525,339	12,279,597	13,073,850	12,909,585
Cotton and its manufactures.....	135,349,660	137,691,036	137,038,165	169,751,145	202,741,351
Miscellaneous.....	20,497,763	28,477,756	26,198,678	30,700,573	26,783,464
Total.....	245,835,579	258,202,776	231,031,919	254,690,150	294,090,907

	1861.	1862.	1863.	1864.	1865.
Animal productions...	\$27,715,392	\$42,288,916	\$68,011,371	\$56,182,453	\$62,361,126
Breadstuffs.....	73,534,544	84,340,653	89,263,736	63,463,353	53,502,511
Wood and its products.....	9,089,434	8,723,750	15,196,319	9,044,832	13,292,460
Cotton and its manufactures.....	51,008,521	4,117,577	9,558,816	11,352,755	9,052,131
Miscellaneous.....	26,657,135	19,788,756	34,756,128	34,710,779	54,913,137
Total.....	188,035,026	159,259,652	216,786,370	174,754,172	193,121,365

Recapitulation of exports of the growth and products of the United States, with their immediate manufactures, for forty years, from 1826 to 1865, inclusive, in periods of five years each, with the total annual average for each period.

Products and manufactures.	Five years ending 1830.	Five years ending 1835.	Five years ending 1840.	Five years ending 1845.	Five years ending 1850.	Five years ending 1855.	Five years ending 1860.	Five years ending 1865.
	<i>Value.</i>	<i>Value.</i>	<i>Value.</i>	<i>Value.</i>	<i>Value.</i>	<i>Value.</i>	<i>Value.</i>	<i>Value.</i>
Animals and their products.....	\$23, 011, 879	\$24, 365, 223	\$29, 309, 261	\$33, 896, 486	\$63, 473, 863	\$67, 898, 635	\$104, 220, 935	\$256, 559, 258
Breadstuffs.....	42, 363, 119	48, 095, 362	47, 114, 914	51, 705, 513	142, 232, 388	134, 181, 567	203, 046, 397	364, 104, 797
Wood and its products.....	15, 632, 507	17, 403, 004	20, 043, 813	19, 331, 158	20, 383, 180	30, 245, 638	61, 354, 408	55, 346, 795
Cotton and its manufactures.....	139, 007, 584	217, 448, 062	336, 561, 729	273, 390, 047	319, 576, 828	526, 235, 464	782, 571, 357	85, 089, 800
Miscellaneous.....	32, 841, 875	37, 848, 758	52, 412, 149	52, 147, 663	48, 999, 940	77, 192, 944	132, 658, 234	170, 855, 933
Total annual average.....	\$4, 602, 375	\$4, 873, 044	\$4, 061, 852	\$6, 779, 297	\$12, 694, 772	\$13, 579, 737	\$20, 844, 187	\$51, 311, 851
Animals and their products.....	8, 472, 623	9, 619, 072	9, 422, 982	10, 341, 102	28, 446, 477	26, 836, 313	40, 609, 279	72, 820, 959
Breadstuffs.....	3, 126, 504	3, 490, 600	4, 008, 762	3, 866, 231	4, 076, 636	6, 049, 727	12, 270, 881	11, 069, 359
Wood and its products.....	27, 801, 516	43, 489, 612	67, 312, 345	54, 678, 009	63, 915, 365	105, 247, 092	156, 514, 271	17, 017, 960
Miscellaneous.....	6, 568, 375	7, 569, 751	10, 482, 429	10, 429, 520	9, 799, 958	15, 438, 588	26, 531, 647	34, 171, 187
Total annual average.....	50, 571, 390	63, 042, 079	95, 288, 370	86, 094, 159	118, 933, 238	167, 151, 457	256, 770, 265	486, 391, 316

Annual average for each period of five years.

METEOROLOGY.

To make room for articles that have been postponed, the tables and notes of the weather for May and June have been condensed.

Observers will oblige us by forwarding their reports, each month, as early as possible.

A. B. G.

TEMPERATURE AND RAIN OF MAY AND JUNE, 1866.

Table showing the highest and lowest range of the thermometer, (with dates prefixed,) the mean temperature, and the amount of rain, (in inches and tenths,) for the months of May and June, 1866, respectively, at the places named. The daily observations were made at 7 o'clock a. m. and at 2 and 9 p. m.

States and places.	MAY.						JUNE.					
	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain.	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain.
MAINE.												
Stenben.....	12	69	1	36	49.7	7.90	26	87	1	44	60.1	2.45
Lee.....	12	80	8	32	50.7	6.05	27	90	9	44	62.3	.....
West Waterville...	12	80	1	37	53.4	3.35	26	89	1, 11	50	64.5	4.30
Gardiner.....	12, 13	71	8	33	52.8	4.97	26	83	1, 9	48	62.5	3.50
Lisbon.....	.....	.....	15	32	.....	4.83	26	92	.....	.....	.....	5.15
Webster.....	12	75	1	36	52.8	.....	26, 27	87	1	48	63.5	.....
Standish.....	13	82	3	38	53.4	3.85	25	95	9	47	66.3	4.55
Cornish.....	12	80	4	35	52.0	3.10	25, 27	90	1	46	63.7	4.20
Cornishville.....	12	79	3	38	53.3	3.51	27	90	1	48	61.8	4.98
NEW HAMPSHIRE.												
Stratford.....	20	77	2	30	47.1	3.72	25	85	1	38	61.5	4.87
Shelburne.....	13	82	8	29	50.7	.....	26	92	1	38	63.6	.....
North Barnstead...	12	80	2	38	54.1	3.40	25, 26	90	1	46	.....	.....
Concord.....	12	82	7	41	55.7	3.25	25	94	1	50	66.8	2.00
Claremont.....	12	81	15	32	53.3	3.75	25	94	1	46	66.5	3.60
Do.....	20	80	2	34	52.3	.....	26	94	1	44	61.8	.....
VERMONT.												
Lunenburg.....	10, 11	80	15	18	45.1	3.00	.....	.....	.....	.....	.....	.....
Craftsbury.....	20	77	1	29	46.8	3.15	25	84	1	40	61.3	2.70
Randolph.....	12	80	1, 15	31	50.1	1.87	25	90	1	37	64.7	3.54
Middlebury.....	12, 20	74	1, 2, 3	36	51.9	2.05	25	85	1	43	65.2	3.92
Brandon.....	20	86	2	31	49.0	2.22	25	94	1	44	66.1	5.22
Barnet.....	12, 19, 20	85	1, 3	35	52.8	3.25	26	100	1	40	67.6	4.75
Wilmington.....	.....	.....	.....	.....	.....	.....	25, 26	92	3, 30	51	65.7	.....

Table showing the range of the thermometer, &c., for May and June—Cont'd.

	MAY.						JUNE.					
States and places.	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain.	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain.
MASSACHUSETTS.		°		°	°	In.		°		°	°	In.
Topsfield.....	13	82	2	42	55.6	5.34						
Newbury.....	13	80	2	40	55.1		25	93	1	48	66.6	
North Billerica	13	80	1	40	55.3		25, 26	92	9	48	68.3	
New Bedford.....	28	72	1	36	53.6	4.02	26	87	9	50	60.2	4.00
Worcester.....	13	76	2	40	54.2	5.33						
Mendon.....	12	77	2	39	54.4	5.05	26	88	9	49	64.5	4.80
Amherst.....	12	80	1, 2	40	54.6	4.48	25, 26	90	1	48	65.8	5.66
Springfield.....	12	85	1	32	53.7	5.86	26	97	1	42	65.8	4.88
Westfield.....	13	77	24	37	54.3	5.54						
Richmond.....	12	82	3, 7, 15	34	57.9	6.82	25	94	1	42	68.0	5.31
Williams College ..	13	78	1, 15	37	52.3	3.38	25	89	1, 16	52	64.6	4.38
RHODE ISLAND.												
Newport.....	26	71	2	42	54.4	4.50	26	84	9	52	66.0	4.13
CONNECTICUT.												
Pomfret.....	16	77					26	87	1	48	63.4	5.15
Columbia.....	12	83	2	40	57.0		26	95	1, 8	50	66.9	
Middletown.....	20	83	3	40	56.9	5.38	26	97	2	52	69.2	3.02
Colebrook.....	20	82	3	35	52.7		26	91	1	51	65.6	
Groton.....			3, 4	38	53.5	5.81	26	86	1, 9	45		4.30
NEW YORK.												
Moriches.....	19	79	1, 3, 4	45	58.7	6.62	26	95	9	56	69.7	2.56
South Hartford.....	12, 20	85	5	32	59.9	1.06	25	93	2	53	68.6	3.65
Troy.....	12	78	1	41	58.2	2.43	25	93	1	53	68.7	6.71
Germantown.....	10	90	3	40	55.9	4.30	26	96	1	50	67.8	6.80
Fishkill Landing...	12	79	3, 4	41	56.7	4.63	25	90	1	53	69.9	4.41
Garrison's.....	20	77	2	39	54.0	4.44	25, 26	92	1	50	66.0	5.64
Throg's Neck.....	19	80	2	39	52.8		25, 26	90	10	52	67.9	
Deaf & Dumb Ins'n	16, 21	74	2	38	56.5	4.46						
Columbia College..	13	81	2	39	57.6	3.59	26	92	2, 3	54	68.9	2.35
Flatbush.....							26	92	5	48	61.6	2.23
Newburgh.....	12, 16	81	2	41	58.3	4.40	26	93	1	55	69.0	4.40
Gouverneur.....	20	85	2	36	51.5	3.06	25	87	1	50	64.7	4.14
North Hammond....							24	88	1	42	64.9	8.74
South Trenton....	10, 11	80	15	31	50.7	4.21	25	91	1	40	64.5	7.14
Oneida.....	20	82	4	31	52.4	4.37						
Depauville.....	20	80	1	35	50.2	3.74	25	84	1	46	63.9	4.08
Oswego.....	20	81	2, 3, 4, 17	38	51.3	2.88	25	86	1	46	62.1	4.81
Palermo.....	20	82	1	34	49.7	2.70	25	91	1	39	63.4	4.80
Baldwinsville.....	12	76	14	36	50.3		25	86	1	42	63.8	
Skaneateles.....	20	82	2, 3	36	51.7		25	92	1	50	64.7	
Nichols.....	20	88	3	37	54.4		25	96	1	45	66.6	
Geneva.....	20	85	3	37	51.3	2.27	25	89	1	48	65.2	4.42
Rochester Univ'y..	20	86	2, 3	37	52.4	2.90	25	91	1, 19	51	66.9	3.90
Rochester.....	20	84	1	38	52.4	2.90	25	91	1, 19	52	66.2	3.90
Little Genesee....	20	87	3, 4, 6, 15	32	49.1		25	92	1	40	66.8	1.75
Buffalo.....	19	81	2	37	50.0	4.86	26	86	1	48	64.0	2.82

Table showing the range of the thermometer, &c., for May and June—Cont'd.

States and places.	MAY.						JUNE.					
	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain.	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain.
NEW JERSEY.												
		°		°	°	<i>In.</i>		°		°	°	<i>In.</i>
Paterson	13	84	2	38	57.7	3.72	26, 27	91	1	53	68.8	4.69
Newark	13	81	4	39	57.4	4.40	25, 26, 27	89	1	50	67.6	2.51
New Brunswick ..	13	84	2	40	59.1	4.30	25, 26	92	19	56	69.7	2.91
Trenton	13	81	2	46	61.2	4.68	26	93	1, 2, 4, 10, 19, 20	60	75.1	3.66
Burlington	13	80	2, 3	44	58.9	4.05	25, 26	89	1	57	70.5	3.90
Moorestown	13	79	2, 3	43	59.0	3.75	26	95	1	56	71.0	2.41
Mount Holly	13	81	4	40	58.9	.....	26	91	2	56	70.7	.....
Seaville							24	91	11	58	72.5	3.80
Haddonfield							26	95	1, 2	57	71.7	2.47
Greenwich	13	77	3	41	58.9	3.45	26	90	1	57	71.3	2.86
PENNSYLVANIA.												
Nyce's	20	80	2	31	53.0	3.30	23, 25	89	3, 18	51	64.7	8.30
Fallsington	13	79	3	41	59.0	3.70	26	91	2, 4	57	69.5	2.90
Philadelphia	13	83	3	46	61.5	4.63	26	97	2	58	73.7	3.39
Germantown	20, 27, 31	79	2	41	.....	.....	26	94	1	55	72.2	.....
Moorland	13	78	2, 3	43	58.3	4.15	25, 26	87	1, 2	55	69.0	5.00
Dyberry	20	82	3, 23	53	42.2	.....						.....
Nazareth	12	84	1	42	59.6	.....	26	93	3	53	69.1	.....
North Whitehall ..	12	77	15	33	55.3	.....	25, 26	88	1	51	67.8	.....
Parkesville	20	81	3	42	58.8	4.32	26	96	1	56	72.0	3.94
Stevensville							25	95	1	48	68.6	4.34
Ephrata	12	83	4, 23	38	58.3	2.92	25, 26	92	1	55	90.9	7.31
Silver Spring	27	83	3	38	59.4	.....	26	94	11	52	70.6	.....
Harrisburg	20	83	3	43	62.6	2.98	26	94	4	62	73.9	5.78
Lewisburg	20	85	23	38	57.7	3.48	25	92	18	54	69.1	3.64
Tioga	12, 20	86	3	28	52.7	2.15	24, 25, 26	94	1, 29	46	67.7	3.45
Pennsville	20	90	3	32	53.3	1.58	26	92	18, 29	48	66.0	4.38
Connellsville	20	88	3	33	57.5	.....	25	92	18	50	69.7	.....
New Castle	20	82	3	30	56.2	.....	25	88	29	46	68.9	.....
Canonsburg	18	82	3	33	57.2	1.07	26	91	29	51	69.3	4.64
DELAWARE.												
Delaware City	13	82	3	43	60.6	.....						.....
MARYLAND.												
Woodlawn	20	82	3	42	60.8	3.96	25, 26	90	3	59	71.4	9.35
Catonsville	16, 20	79	3	42	60.3	.....	25	90	18	56	71.6	.....
Annapolis	31	79	3	45	62.2	4.33	27	92	19	60	74.6	8.11
St. Inigoes	25	84	3	45	60.4	4.59	26	92	9, 30	64	75.2	3.11
Frederick	20	83	2, 3	40	60.0	1.50	25	91	29	59	77.8	6.75
VIRGINIA.												
Wytheville	20	83	3	40	59.5	.....	25	89	29	48	63.9	.....
WEST VIRGINIA.												
Cabell Court-House	19, 20	85	5	40	61.0	1.70	12	91	17, 18, 29	56	70.2	5.10
Romney	20	88	3, 14	36	56.2	.....	24, 25	94	29	48	67.3	.....

Table showing the range of the thermometer, &c., for May and June—Cont'd.

States and places.	MAY.						JUNE.					
	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain.	Date.	Max. temp.	Date.	Min. temp.	Mean. temp.	Rain.
NORTH CAROLINA.		°		°	°	In.		°		°	°	In.
Wilson	20	92	5	50	67.3	1.85			19	60		4.90
GEORGIA.												
Atlanta	1, 19, 20	82	30	42	63.6	6.87	9, 10, 12, 13	88	19	44	69.6	4.89
ALABAMA.												
Moulton						7.63	25	90	29	57	73.8	5.01
MISSISSIPPI.												
Natchez	28	86	30	54	70.9	9.85	26	89	18	50	76.0	5.65
Grenada							25	88	30	52		
FLORIDA.												
Jacksonville	27	97	5	65	78.6	2.95	13	100	18, 21	65	81.5	4.13
Gordon							12, 13	98	18	62	79.1	
TEXAS.												
Austin	27	93	29, 30	57	73.9	5.46	20	95	4	62	81.3	2.15
Chapel Hill	28	92	28	60	71.6	4.05	3	92	18, 29	64	79.8	4.05
ARKANSAS.												
Helena	27	93	29	54	70.9	7.38						
TENNESSEE.												
Clarksville	19	84	2	44	62.9	2.11	11, 25	88	19, 30	55	71.3	2.84
Lookout Mountain.	20	88					12, 24	95	17	54	71.9	
KENTUCKY.												
Louisville	19	89	5	36	61.0	1.84	26	92	19, 29	46	72.1	6.48
Chilesburg	19	86	2	43	61.3	2.03		90	29	45	70.4	4.91
Taylorsville	26	89	2	44	63.2	1.21	25	94	30	58	75.0	4.07
OHIO.												
New Lisbon	20	90	3	35	56.9	1.46	25	96	1	45	70.4	11.19
East Fairfield	20	85	3	36	55.4	1.91	25, 26	85	29	49	67.2	6.43
Steubenville	20	87	4	37	61.0	2.50	13, 25, 26	87	29	52	72.2	7.04
Milnersville	19	86	4	25	47.4	1.15						
Wooster	19	87	3	39	57.0		12, 25	95	18, 28	52	71.3	
Gallipolis	20	87	2, 3, 4	40	59.7	0.73	23	93	18	51	70.9	3.59
Kelley's Island	11	78	2	41	56.3	3.77	23, 25	89	18	53	69.1	7.42
Norwalk	18	82	1	37	55.2	3.22	8, 24, 26	90	18	49	67.4	6.22
Westerville	19	87	2, 4	43	61.0	1.22	8	90	28	51	71.2	5.10
Kingston	19	89	2	43	60.2	1.67	12	94	28	52	71.6	3.01
Toledo	19	84	3	34	55.8	5.38	24	92	18	47	67.4	4.69
Marion	19	82	2, 3	38	56.5	3.37	24, 25	87	18	50	68.6	4.76
Kenton							24	94	18	52	75.0	7.75

Table showing the range of the thermometer, &c., for May and June—Cont'd.

States and places.	MAY.						JUNE.					
	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain.	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain.
OHIO—Continued.												
		°		°	°	<i>In.</i>		°		°	°	<i>In.</i>
Urbana University.	19	88	2	39	58.7	1.59	8, 12	88	18	47	69.3	5.54
Hillsboro'.....	19	84	2	39	58.7	1.11	12, 25	88	18	51	69.7	4.32
Ripley							24	100	18	53	66.4	3.96
Bethel	18	88		35	57.3	0.63	8, 12	92	28	49	66.7	2.38
Cincinnati.....	19	88	2	42	61.6	0.94						
College Hill.....	19	88	3, 4	40	59.4	0.88	25	95	18	52	71.8	5.25
Farmers' College ..	19	86	4	38	58.5	1.63	25	93	28	49	70.9	5.25
MICHIGAN.												
Grand Rapids	19	94	2	34	55.8		24	90	18	48	66.8	
Monroe City.....	19	79	1	38	57.1	2.89	24	88	18	49	69.2	3.21
State Ag. College..	19	80	1, 2	35	54.7	3.48	8, 12, 24	86	18	46	66.5	5.37
Homestead	19	89	1, 2	32	50.1		8, 20	86	27	46	65.4	
Holland	19	85	2	32	51.8	2.50	8	94	18	48	66.3	4.89
Ontonagon							24	84	2	44	60.1	
Litchfield.....							24	91				
Northport							24	88	1	42	59.8	
INDIANA.												
Aurora.....	19	94	4	36		1.56	25	100	29	50	71.8	3.10
Vevay	18	98	3	44	64.4	1.50	12	99	29	50	77.8	5.28
Spiceland	19	91	2	39	59.3	1.70	25	96	18	51	71.3	4.20
Madison	19	84				1.08	13, 25, 26	91	17	60	76.4	2.56
Columbia City.....	19	89	3	36	55.2	6.13	25	96	18, 28	49	68.1	3.06
Merom	19	90					25, 26	91	18	52	72.1	3.30
New Harmony.....	19	88	2	45	63.1	1.08	26	94	18	54	74.6	2.20
ILLINOIS.												
Chicago	19	98	2	34	54.4		24	100	18	48	70.7	
Riley.....	19	93	2	34	53.2		25	92	19	42	66.4	3.67
Golconda.....	26	94	3	40	68.7	2.30	8	95	19	44	76.2	2.60
Aurora.....	19	89	28	28	56.4	1.67	24	90	28	47	66.9	2.34
Sandwich	19	90	1, 2	38	57.9	3.19	25	95	28	49	68.4	5.29
Ottawa.....	19	93	1, 2, 3, 5	42	58.9	2.16	25	101	28	50	69.0	1.57
Winnebago.....	19	91	2	35	56.8	1.90	11, 24	90	16	50	68.2	4.45
Wyanet	18, 19	88	2	32	56.8	1.99	25	92	1	49	68.4	2.79
Tiskilwa	19	92	7	36	59.1		25	99	16	50	69.3	
Elmira	19	90	2	38	60.2	1.63	25	92	1	51	69.8	2.69
Hennepin	19	90	2, 17	31	58.0		25	92	1	43	67.0	
Peoria	19	88	2	39	60.7	2.57	24, 25	92	17, 18	54	70.9	2.62
Springfield	25	89	2	36	58.5		25	94	2, 17, 18	50	69.8	
Loami	19	89	1	41	60.6	3.10	25	96	28	53	71.1	2.80
Dubois	18	88	2	31	57.7	2.25	26	88	29	40	64.1	8.49
Hoytston.....	19	91	1, 2	45	60.4	1.35	25	98	29	48	73.0	5.75
Galesburg.....	19	85	2	35	58.0	1.24	24	88	16	51	68.7	0.83
Augusta.....	19	82	2	39	61.2	2.12	25	87	16	54	72.8	1.74
Manchester.....	19	89	1	44	63.6	4.95	25	93	16, 18	55	72.1	1.22
Mt. Sterling	18, 19	84	1	40	62.7		24	93	16, 18	54	76.7	
Andalusia	19	86	2	35	56.7		25	93	19	47	75.6	

Table showing the range of the thermometer, &c., for May and June—Cont'd.

States and places.	MAY.						JUNE.					
	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain.	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain.
WISCONSIN.												
		°		°	°	In.		°		°	°	In.
Manitowoc	12	74	1, 2	33	49.8	1.78	24	89	1	45	62.2	5.29
Milwaukee	9, 20	74	1	35	51.3	2.64	24	89	1	46	64.5	6.18
Ripon	19	86	2	35	55.3	.....	22	88	18	50	68.3	.....
Geneva	19	83	2	32	54.9	.....	11, 24	90	17, 18	50	67.7	.....
Delavan	19	87	1	35	54.6	2.05	11, 24	88	17	47	66.9	2.22
Waupaca	19	91	1	32	56.5	.....	24	90	11, 17	52	68.6	.....
Weyauwega	19	87	1, 2	38	55.0	1.00	24	92	27	50	68.4	.....
Embarrass	19	97	2	28	55.5	1.69	24	95	18	40	65.5	5.05
Rocky Run	19	91	2	34	56.0	3.70	.....	.....	.....	.....	.....	.....
Baraboo .....	.....	.....	.....	.....	.....	.....	24	90	16	50	69.0	5.50
Beloit	19	89	1, 2	38	57.4	0.55	.....	.....	.....	.....	.....	.....
Plymouth	19	86	2	31	51.6	2.20	24	90	16	45	65.6	6.00
MINNESOTA.												
Beaver Bay	17	75	1	32	48.3	1.02	25	87	11	40	58.2	3.34
Afton	19	93	1, 2	31	56.7	.....	3	89	16, 18	51	65.7	.....
St. Paul	19	86	1	31	54.8	0.39	20	84	16, 18	51	64.0	6.00
Minneapolis	19	87	1	30	58.7	0.65	20	88	17	51	67.2	7.28
Forest City	25	87	1, 3	32	59.0	0.00	.....	.....	.....	.....	.....	.....
Sibley	25	88	1	30	59.0	0.03	3, 25	87	16	49	66.4	2.44
New Ulm	18, 19, 25	85	1	34	61.4	0.35	25	92	28	51	69.6	3.75
IOWA.												
Clinton	18	94	2, 7	38	60.1	2.65	24	94	16, 17, 18, 29	50	69.3	4.80
Lyons	18, 19	90	2	28	61.1	1.87	22, 24	94	18	50	69.7	4.16
Davenport	19	85	16	33	57.8	4.80	25	89	18	52	66.4	9.77
Dubuque	19	89	1	41	59.0	1.91	24	90	1	52	68.8	4.33
Fort Madison	19	87	2	37	60.6	3.16	25	93	18	54	71.7	2.48
Monticello	19	90	1	33	56.9	3.16	24	87	16	48	69.7	4.00
Ceres	19	86	31	31	51.3	.....	24	92	16	44	67.5	.....
Manchester	19	88	2	35	56.3	1.13	24	87	16	48	63.0	4.67
Mount Vernon	19	91	2	31	58.2	.....	24	89	16	49	68.0	.....
Iowa City	25	84	2	35	59.2	1.59	.....	.....	.....	.....	.....	.....
Independence	18, 19	93	2	34	58.7	2.20	24	96	17	47	67.6	8.00
Waterloo	19	87	2	34	56.6	.....	24	94	28	48	65.3	.....
Osage	19	93	1	32	57.6	.....	24	93	17	51	67.8	.....
Iowa Falls	26	82	2	34	58.7	1.95	23, 24	86	18	34	64.7	7.16
Fontenelle	18, 19	88	1, 2	36	58.2	3.56	25	92	16	52	69.0	6.56
Harris Grove	18	90	2	33	58.2	0.12	.....	.....	.....	.....	.....	.....
Washington .....	.....	.....	.....	.....	.....	.....	23	90	15	50	67.9	3.81
MISSOURI.												
St. Louis Univer'y.	19	87	2	47	65.4	2.27	25	93	18	59	75.3	5.35
St. Louis	12, 18, 19	87	2	45	64.2	2.24	.....	.....	.....	.....	.....	.....
Allenton	19	88	3	40	59.9	3.04	7, 25	91	18, 19, 29	47	68.7	3.32
Athens	18	93	17	40	62.3	0.73	28	98	17, 30	58	74.5	2.50
Harrisonville	19	86	2	42	61.4	5.42	26	92	16	52	67.1	4.18
Union	12	89	2	44	63.4	2.50	25	93	17, 28	56	72.8	4.36

Table showing the range of the thermometer, &c., for May and June—Cont'd.

States and places.	MAY.						JUNE.					
	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain.	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain.
KANSAS.												
		°		°	°	<i>In.</i>		°		°	°	<i>In.</i>
Leavenworth.....	18, 25	90	14	40	60.8	6.04	21	96	29	47	69.3	9.25
Olathe.....	25	87	1, 2	42	61.2	4.30	25	91	16	51	70.5	10.60
Atchison.....	11, 17, 19	82	29	42	60.4	.....	.....	.....	.....	.....	.....	.....
Agric. College.....	18	90	2, 28	45	61.9	2.83	24, 25	94	16	54	71.8	3.60
Burlington.....	25	90	2	41	62.4	3.14	25	94	28	54	71.7	5.46
Council Grove.....	18	88	2	41	59.0	7.60	24, 25	88	28	50	66.6	11.70
NEBRASKA.												
Elkhorn.....	18	93	1	37	61.3	.....	24	93	5	52	68.7	.....
Bellevue.....	18	90	1, 29	38	60.7	1.91	24	94	4, 6, 17	50	68.3	5.27
Glendale.....	19	92	1	36	60.2	2.85	7	95	16	46	68.0	5.93
UTAH TERRITORY.												
Great S. Lake City.	17	82	8	40	58.7	.....	17	88	7	45	65.4	5.34
Wanship.....	17	82	25	34	56.3	.....	.....	.....	.....	.....	.....	.....
CALIFORNIA.												
Sacramento.....	16	91	5	45	63.1	2.25	.....	.....	.....	.....	.....	.....
Monterey.....	16	67	4, 5	47	52.7	0.80	.....	.....	.....	.....	.....	.....
Meadow Valley....	15, 16	85	4	35	54.0	2.95	.....	.....	.....	.....	.....	.....
MONTANA TER'Y.												
Helena City.....	23	65	1, 2, 6	30	41.3	4.30	.....	.....	.....	.....	.....	.....
WASHINGTON TER.												
Neeah Bay.....	8	62	3	36	50.1	6.20	.....	.....	.....	.....	.....	.....

AVERAGES OF MAY AND JUNE.

*Table showing the average temperature and fall of rain (in inches and tenths)
for the months of May and June in each of the years named.*

States, &c.	MAY.						JUNE.					
	Averages, 1864.		Averages, 1865.		Averages, 1866.		Averages, 1864.		Averages, 1865.		Averages, 1866.	
	Mean temp.	Mean rain.	Mean temp.	Mean rain.	Mean temp.	Mean rain.	Mean temp.	Mean rain.	Mean temp.	Mean rain.	Mean temp.	Mean rain.
	Deg.	In.	Deg.	In.	Deg.	In.	Deg.	In.	Deg.	In.	Deg.	In.
Maine	53.4	3.47	54.0	5.71	52.3	4.70	64.4	1.09	66.6	2.00	63.1	4.16
New Hampshire	54.9	4.25	55.3	5.49	52.2	3.53	63.7	0.91	67.7	2.80	64.6	3.49
Vermont	56.3	3.95	51.3	4.71	49.3	2.59	64.4	1.29	66.7	2.71	65.1	4.03
Massachusetts	58.7	2.35	56.9	7.20	60.0	5.73	65.1	0.97	69.7	2.69	65.5	4.84
Rhode Island					54.4	5.50	65.6	1.22			66.0	4.13
Connecticut	60.2	3.28	58.4	6.99	55.0	5.60	67.1	2.06	71.2	3.36	66.3	4.16
New York	61.0	4.62	57.6	4.46	53.6	3.67	66.1	1.53	70.1	4.81	66.1	3.15
New Jersey	64.7	6.43	61.1	6.88	58.9	4.05	68.1	1.75	72.7	3.87	70.9	3.25
Pennsylvania	64.1	6.62	60.1	6.35	56.6	3.12	69.1	2.38	73.7	5.66	70.7	4.76
Delaware			62.5	5.80	60.6		70.5	1.80	74.2	3.30	60.6	
Maryland	67.9	6.19	63.0	6.36	60.7	3.60	70.4	1.45	75.5	3.78	74.1	6.83
West Virginia			61.5	13.27	58.6	1.70			74.6	3.63	68.8	5.10
Georgia					63.6	6.87					69.6	4.89
Mississippi			70.3	0.35	70.9	9.85			78.5	3.14	76.0	5.65
Tennessee					62.9	2.11					71.6	2.84
Kentucky	63.5	4.18	63.5	7.46	61.8	1.69	72.6	3.09	75.8	4.25	72.5	5.15
Ohio	62.5	3.17	60.7	6.21	57.6	1.95	60.2	2.29	74.6	3.48	69.8	5.52
Michigan	58.6	2.71	57.8	1.60	53.9	2.96	67.8	4.25	71.3	2.74	64.9	4.49
Indiana	64.2	2.50	61.9	6.84	60.5	2.18	73.1	1.41	75.0	4.63	73.2	3.39
Illinois	63.4	1.79	60.6	1.67	59.0	2.38	72.1	2.29	68.7	4.50	70.2	3.43
Wisconsin	55.0	1.79	57.6	1.09	54.4	1.95	66.9	1.33	68.5	4.49	66.7	5.21
Minnesota	60.8	0.74	59.9	4.69	56.8	0.41	66.9	1.43	66.4	4.33	65.2	4.56
Iowa	61.3	3.02	60.1	1.82	58.0	2.34	72.0	4.29	70.6	6.98	67.8	5.43
Missouri	66.6	4.01	66.7	4.00	62.8	2.70	75.5	1.71	74.4	6.04	71.7	3.94
Kansas	65.4	1.52	66.3	4.80	61.0	4.78	76.9	2.19	75.2	6.77	70.0	8.12
Nebraska Territory	63.6		62.7	2.20	60.7	2.38	74.3	2.86	72.7	5.07	68.3	5.60
Utah Territory			68.2	2.60	57.5				77.9	3.51	65.4	4.34
California			65.0	0.31	56.6	2.00	71.5	0.09	64.7	0.08		

NOTES OF THE WEATHER—MAY, 1866.

FROM THE SMITHSONIAN INSTITUTION.

Steuben, Maine.—May 12.—A very white frost. 31st.—It was so wet all this month that no planting of any account could be put in.

Lisbon, Maine.—May 15.—Ice this morning an eighth of an inch thick. Thermometer 32° at 7 a. m.

West Waterville, Maine.—May 14.—First blossoms of cherry and plum. 22d, first blossoms of apple. 31st, the mean temperature of the month has been lower than the average for May.

Standish, Maine.—May 4.—Farmers began to plant potatoes. 10th, dandelions and strawberries in blossom. 15th, ice a quarter of an inch thick on a pail of water this morning. 19th, cherries in full bloom. 23d, a few flakes of snow at 10.20 a. m., and again at 4 p. m.

Stratford, New Hampshire.—May 13.—Thunder-shower from southwest at 7 p. m. 14th, snow squalls all the forenoon; snowing again at 7 p. m. 15th, mountains white with snow this morning. Thermometer 26° at 5 a. m. Ice an eighth of an inch thick. 18th, first field strawberries in bloom. 21st, plum trees in bloom. 22d, snow squall from the northwest at 7.20 p. m. 23d, snow on the mountain tops all day.

Shelburne, New Hampshire.—May 12.—General time of forest trees leafing. 15th, ice in the creeks. 22d, snow squalls on the mountains in the afternoon.

Concord, New Hampshire.—The first ten days were extremely cold for the season; the whole month has been unusually cold and changeable.

Claremont, New Hampshire.—May 31.—The season is unusually late; vegetation advances very slowly. For about a fortnight of the last of April and the first of May everything seemed to stand still. April and the fore part of May were very dry, grass backward and slow in starting. In the latter part of May rain was abundant and the fields were growing green fast.

Lunenburg, Vermont.—May 31.—Maples are just putting out their leaves. The wild cherry tree is not yet full in blossom. There have been no freshets this spring and the meadows have not been flowed as usual.

Middleburg, Vermont.—May 13.—A violent thunder-storm and tornado at 5 p. m., destroying several buildings on high and exposed situations.

Barnet, Vermont.—May 13.—A great tornado about half past 4 p. m. The wind was in south, and for about an hour before there was every appearance of a heavy thunder-shower. The clouds came rolling up over the hills and were black as night. There was a little, but not severe, thunder and lightning. Soon the wind began to blow with great severity, taking large trees up by the roots, twisting off the tops of others, unroofing some barns, and blowing down others, as well as some houses. It totally demolished the toll bridge across the Connecticut river at this place. After the tornado passed there was quite a heavy shower of rain and a very little hail.

Brandon, Vermont.—May 13.—At 4½ p. m. a tornado suddenly broke upon the town from the southwest, followed by sharp zig-zag lightning and heavy thunder, with rain and hail. Fortunately it was of only a few minutes duration, or its consequences would have been most disastrous, for in the space of from three to five minutes it uprooted a large number of forest and fruit trees, unroofed a number of barns, and threw down a large amount of fencing. The most

violent part of the storm was confined to a space not exceeding one mile. 22d, spots on the Green mountains white with snow.

Randolph, Vermont.—May 8.—White frost; thermometer 29° at $5\frac{1}{2}$ a. m.; smoky or dry mists in the valleys; earth dry for the season; streams low; land in good condition for planting; grass backward; sheep and young cattle out to pasture. 11th, white frost; plum trees in blossom. 12th and 13th, at $5\frac{1}{2}$ p. m., dark clouds gathered in the west; wind southwest; in five minutes increased to a terrible gale; hailstones a quarter of an inch in diameter fell, covering the earth; rain followed, continuing moderately till 9 p. m.; trees were broken by the wind.

Richmond, Massachusetts.—May 2.—Snow on the mountain. 13th, heavy wind from the southwest through the day; thunder shower set in with hail and rain at 5.45 p. m. The hailstones were as large as buckshot, and covered the ground. 15th, plum trees in bloom. 21st, apple trees in bloom. 31st. The month was cool, and vegetation is late.

Worcester, Massachusetts.—May 10.—Apple trees in blossom. 16th, horse chestnut in blossom. 24th, white frost.

North Billerica, Massachusetts.—May 14.—Apple trees in blossom abundantly; streams low. 15th. Severe frost last night.

New Bedford, Massachusetts.—May 2.—Cherry trees begin to bloom. 20th, horse chestnut in warm exposure in bloom. 31st, forest trees generally in leaf.

Groton, Connecticut.—May 15.—Light frost this morning. 25th. Frost last night.

Little Genesee, New York.—Frost on eighteen mornings during the month; ice over an eighth of an inch thick on the 24th.

Rochester, New York.—May 20.—At 4 p. m. a thunder-storm came on from south and west, with violent wind; much rain, and most destructive hail over a narrow range of the city. It was the most severe hail-storm that has occurred here in many years.

Gouverneur, New York.—May 31.—The month has been cold and backward, and vegetation is some three weeks later than last season; garden vegetables are just coming up.

New York, N. Y.—May 13.—A violent storm came up suddenly at 5 p. m., accompanied with vivid lightning, but not much thunder. Hailstones fell thickly at first. The wind which preceded the storm did much damage.

Geneva, New York.—The weather was warmer on the 20th (85° at noon) than on any other day in May during the last fifteen years. But the average for the month has been 4.64° lower than the general average for May, and only six days, viz., the 10th, 11th, 12th, 18th, 19th, and 20th, have risen to the temperature due to the general average for the corresponding days.

Buffalo, New York.—The temperature of May was six degrees below the average of the eight years during which these observations have been taken. A part of the ice which was driven up the lake in the storm of April 23d, and returned three days later, lingered in the bay and across the entrance of the harbor until the 13th, offering, however, no serious impediment to navigation. There was frost on six mornings, the last of which was on the 17th, all harmless. The growth of every species of vegetation except grass has been slow, yet the opening of leaves and flowers is not much behind former years. Strawberries and cherries in blossom on the 11th; sugar maple and horse chestnut in leaf on the 18th, and forest trees generally on the 21st. Apple trees in blossom on the 22d. The temperature of the three spring months was $2\frac{1}{4}^{\circ}$ colder than the mean for eight years, and the precipitation of rain one inch more.

Moriches, New York.—May 13.—At a few minutes before 7 p. m. a dense black cloud formed along the western horizon and soon came up, the blackness measurably disappearing; some lightning and thunder accompanied it in its progress; rain began at 7; less than three-tenths of an inch fell; by $11\frac{1}{2}$ p. m. the sky was entirely clear.

South Hartford, New York.—May 13.—At 4 p. m. a heavy and dark cloud formed in the south and west, accompanied with thunder. At 4.45 it was almost impossible to stand against the wind. At 5.20 the tornado came on, and for about five minutes unroofed houses, uprooted trees, scattered fences over large areas, and levelled forests by the acre, while the rain drenched the ground. No such hurricane is recollected here.

Garrison's, New York.—May 13.—A heavy thunder storm came from the west, accompanied with high wind and hail, and followed by frost the next morning.

South Trenton, New York.—May 2.—Two-tenths of an inch of snow fell. 10th, locust trees in bloom. 13th, cherry trees in bloom. 31st, grass is very backward for the time of year.

Germantown, New York.—On the 2d of May the Catskill mountains were covered with snow nearly to their base. On the afternoon of the 12th (13th?) a severe hail-storm from the southwest passed over, accompanied with strong wind, but doing no damage to buildings. Tender plants and grapevines were considerably injured.

Theresa, New York.—May 13.—Distant thunder southwest from 2 to 3 p. m. 17th, water froze a sixteenth of an inch; cherry trees in bloom. 20th, a thunder-storm passed over at 7 p. m. from the west; high wind from the west for fifteen or twenty minutes; thunder distant; lightning zig-zag. 22d, occasional flakes of snow in the morning; apple trees in bloom. 31st, forest trees in leaf.

Depauville, New York.—The weather through the month of May was unusually cool owing to the hard winter frosts and their mellowing effects on the soil, and also to the dry weather during the first half of May. Farmers had a favorable time for ploughing and sowing, and never before got through their spring work so early or with more ease.

Nichols, New York.—May 13.—Shower at 2 p. m., with violent wind; a short distance from here, north-northwest and northeast, a number of houses were unroofed, and trees blown down. The storm came from the west; the clouds were of a dark purple color, and appeared to roll over and over very fast in the form of a whirlwind. 31st.—This has been the coldest May in some years; the mercury was below 32° at 5 a. m. on a number of mornings.

Palermo, New York.—This has been the coldest May in thirteen years.

Burlington, New Jersey.—May 13.—At half past four o'clock a thunder-shower passed over from northwest to southeast; the wind blew quite hard; rained about half an hour. 23d, heavy frost.

Newark, New Jersey.—The mean temperature of May was more than two degrees below the average of the last twenty-two years. There was no violent storm or tornado during the month. Lilacs put forth on the 10th, and the pyramidal clusters of the horse chestnuts opened about the 14th, a week later than last year. The mean temperature of the spring now closed was about the average of that season here.

Mount Holly, New Jersey.—May 13.—Thunder-storm from 4.45 p. m. to 5.30 p. m.; wind from the northwest. 23d, frost this morning. 27th, thunder-storm came up from northwest, (wind southwest;) about 9 p. m. began to rain; at 9½ p. m. rained very heavily; lightning diffuse, very brilliant, and almost constant.

Fallsington, Pennsylvania.—May 13.—Gale in the afternoon; light thunder-showers. 23d, frost. 31st.—The month has been cold and backward, and during the last three months, taken together, much less water fallen than is usual for the spring months.

Horsham, Pennsylvania.—May 9.—The weather for the past week has been mostly cool, with a great deal of wind. It is quite dry; apple trees are in full bloom, and there is a very fair promise of fruit. 23d, white frost last night.

Lewisburg, Pennsylvania.—May 13.—At 1½ p. m. a sudden and violent storm of wind came on, lasting half an hour, wind west; high wind all the afternoon.

15th, at 5 a. m., the thermometer stood at 32° ; frost killed young shoots of grapevines. 27th, a great hail-storm began at $4\frac{1}{4}$ p. m.; the wind at first was from the west; during the storm it changed to southwest, and then rapidly through east to north; when southwest it blew with a force of 9; within about an hour and a half it hailed twice, with a marked interval; the last time the hailstones averaged the size of hulled walnuts; many were much larger; one measured in longest diameter $2\frac{7}{8}$ inches, and in shortest, $2\frac{1}{4}$ inches; many others were reported to be larger; at this point the storm travelled from southwest to northeast; great destruction was done; upwards of two inches of water fell in two and a half hours.

Grampian Hills, Pennsylvania.—May 13.—In the morning light clouds; barometer falling very fast; at 4.30 a. m. heavy storm of wind from northwest, with rain, throwing down timber and fences, and tearing down and unroofing several buildings; it lasted from five to ten minutes; at 2 p. m. drizzling rain; barometer rising, and thermometer falling. 14th, frost; thermometer 30° at 5 a. m. Apple and wild plum mostly in bloom. 23d, extremely dry; grass and grain backward; oaks beginning to show leaf; corn being planted.

Dyberry, Pennsylvania.—May 13.—Rain from 3 p. m. to 4.30, commencing with strong wind from southwest and some thunder; north and northwest of this place large quantities of timber were blown down. 25th, streams have been very low for some weeks. 27th, small streams well filled. 31st, the spring has been unusually cold and backward, fully three weeks later than usual.

North Whitehall, Pennsylvania.—May 3.—Plums in full bloom. 6th, peaches in full bloom, very sparingly. 12th, apples in full bloom. 13th, rain at 4 p. m., preceded by high wind.

Stevensville, Pennsylvania.—May 13.—A heavy blow passed here this afternoon; a dark cloud arose rapidly in the northwest, and reached here at about 2 p. m.; the wind was strong enough to blow over and twist off trees; two or three buildings were unroofed, and one or two moved from their foundations; the storm was accompanied with thunder and lightning and considerable rain.

Tioga, Pennsylvania.—May 4 to 7.—Heavy frost each day; on the 4th ice one quarter of an inch thick, and on the 5th an eighth of an inch. 8th, planted corn to-day; cold enough to wear mittens. 13th, very hard shower of rain and hail between 1 and 2 o'clock p. m., accompanied by very strong wind; many buildings were unroofed, fruit and other trees torn down, and fences scattered in all directions. 16th, apple trees in bloom. 23d, heavy frost this morning; ground frozen; ice a sixteenth of an inch thick; a little snow about 9 a. m. 31st, this has been the coldest and driest May in twelve years.

New Castle, Pennsylvania.—May 13.—Mercury at 9 a. m. fell from 74° to 50° in twenty minutes; a hail-storm passed west and north a few miles from here. 14th and 15th, very heavy white frost; ice formed an eighth of an inch thick; nothing injured on the high elevation on which the observer lives except a few early strawberry blossoms, but on the next level below grapes were killed.

St. Mary's City, Maryland.—May 13.—About 5 o'clock this afternoon a violent tornado, accompanied by thunder and lightning and followed by rain, came sweeping from the west. In its course across St. Mary's river it described an irregular curve. The line of its greatest intensity was not greater than a few rods in width; in this space it appeared to revolve on an axis perpendicular to its course, and raised the water as it advanced in large masses. In one place it remained stationary for a few seconds, and elevated a column of water some six or eight feet high, exhibiting, in a very lucid manner, the law of the formation of water-spouts. When it emerged on the land it carried away trees and fences in its course, continuing in the same curve, whose radius could not have been more than two miles. Immediately afterwards the wind shifted to the northeast.

Woodlawn, Maryland.—The month has been very cold and backward for

vegetation; garden plants have been blighted in exposed situations, and the corn has the blades deadened and yellow; hoar-frost has been seen on seven mornings, and thin plates of ice on six mornings, the last on the 24th.

Wytheville, Virginia.—May 1.—Lowest barometer since November, 1865. 13th, shower at 1 p. m. 22d, first ripe strawberries. 28th, violent gale during the night; the wind has been high for several days.

Grenada, Mississippi.—May 31.—This month has been remarkably wet and rather cool; crops of corn and cotton are backward, and in bad condition; appearances at present are unfavorable for anything like an average crop; wheat is now being harvested; it has suffered much from rust; not over half a crop.

Chapel Hill, Texas.—May 1.—Norther at 8 a. m. 3d, norther at 10 p. m. 23d, diffused lightning in the northwest at 9 p. m.; the lightning was from a distant cloud seen through a rift in the nearer cloud. 24th, at 3 a. m. a norther, with rain, reached here from the cloud in which the excessive lightning of last night proceeded; it still contained a large amount of electricity. 28th, norther at 4.30 p. m.; it was preceded by intense heat and calming down of wind; a heavy nimbus cloud north from 2 to 4 p. m. contained much electricity, given forth in a zigzag lightning.

Chilesburg, Kentucky.—May 13.—A sprinkle of rain this morning for near an hour. 14th, frost this morning; thermometer 34° before sunrise. 22d, frost this morning; dock, plantain, clover, and potato leaves frozen stiff; strawberries ripe; some of the grapes in full bloom, nearly all just ready to open. 30th, frost this morning; thermometer 38° ; carried lower and laid on the ground it sunk to 34° after sunrise; leaves stiff frozen this morning.

Kelley's Island, Ohio.—May 9.—Cherries in bloom. 12th, apple trees just coming in bloom. 13th, rained moderately from 7 p. m. yesterday to 10 this morning. 14th, hoar-frost in some localities in the interior; none near the lake shore. 22d, grapes in leaf, just fairly open.

Kingston, Ohio.—The last frost was on the 23d, the thermometer stood at 37° at $5\frac{1}{4}$ a. m.

Westerville, Ohio.—May has been unusually dry and cold; there have been from twelve to fifteen frosts; vegetation has been retarded in consequence.

Milnersville, Ohio.—The frosts of the nights of the 22d to the 25th did considerable damage to early potatoes and to buds and blossoms of grape-vines.

Toledo, Ohio.—May 27.—The barometer was lower to day than it has ever before been observed in May; it was attended with a great fall of rain and considerable wind.

Lansing, Michigan.—May 1.—At 8.15 a. m. a snow-storm began, (wind north-east,) and lasted till 5 p. m.; much of the snow melted as it fell, but enough remained to form a covering of four inches on a level on bodies removed from immediate contact with the soil, as roofs of sheds, &c. The last of the snow, in secluded places, did not disappear till the forenoon of the 3d.

Holland, Michigan.—May 1.—Snow-storm in the afternoon. 31st.—The season is backward; there was frost on ten mornings during the month.

Homestead, Michigan.—May 24.—There have been several hard frosts in nights past, and young leaves of forest trees look colored and bitten. 31st, hard freeze last night. The month has been cold, with few showers and much north and northwest wind.

Vevay, Indiana.—Heavy frosts in the nights of the 4th, 5th, 14th, 15th, and 29th. On the 13th there was a shower of rain from 5 to 6.30 a. m., accompanied with high wind. 31st.—The nights during the month, with a few exceptions, have been bright and clear.

Galesburg, Illinois.—May 31.—The month has been cold and vegetation is backward; trees that were in full bloom give signs of but little fruit.

Augusta, Illinois.—May 1.—Apple trees in bloom. 5th, wild crab in blos-

som. 11th, Osage orange leafing out. 29th, red and white clover in blossom. 30th, garden strawberries begin to be ripe.

Winnebago, Illinois.—May 23.—Thermometer at sunrise 33°. The frost of this morning was very injurious to pears, early apples, cherries, and plums; potatoes, corn, and tender vegetables were killed in many localities.

Riley, Illinois.—May 7.—Hard frost; ground frozen half an inch. 11th, about half an hour after sundown, a swarm of beetles came from the west; for about twenty minutes, with a roaring, rushing sound like the approach of a heavy wind, they could be heard in all directions, and were of a dark-red brown color, about seven-eighths of an inch or an inch long. In some districts west they came from the north the evening previous so thick, that if doors or windows were open they literally filled the house like the locusts and frogs of Egypt.

Golconda, Illinois.—May 15.—First strawberries in market, out-of-door growth. 31st.—The month has been very cool with frequent showers; all the crops are doing finely; so far, the prospects are the best for several years.

Aurora, Illinois.—The observer has not known so cold and backward a May during the eighteen years that he has resided here. The general impression among farmers is, that their crops will be far below the average.

Dubois, Illinois.—May 26.—At 7 a. m. a dense fog. A few minutes before midnight a terrific thunder-storm came up with a violent gale, the wind blowing down fences, trees, &c.

Wyanet, Illinois.—May 17.—Heavy frost, and ice as thick as window-glass; killed large quantities of fruit; fruit near ponds not hurt so much.

Elmira, Illinois.—May 2.—Thermometer 29° at sunrise; ice a sixteenth of an inch thick. 4th, considerable frost; thermometer 34° at 5.10 a. m. 6th, 7th, 14th, slight frosts. 17th, heavy frost; thin ice formed; thermometer 31° at sunrise.

Allenton, Missouri.—May 29.—Thermometer 35½° at 5 a. m.; white frost seen in the neighborhood.

St. Louis, Missouri.—Only two thunder-storms occurred during the month—on the 12th and 26th. The quantity of rain was less than ever before observed in May. The temperature was two degrees less than the average of thirty-one years. The river was highest in the beginning of the month, nearly twenty-four and a half feet above low water, gradually falling to fourteen and a half at the end of the month.

Milwaukee, Wisconsin.—May 17.—Ice this morning.

Delavan, Wisconsin.—May 29.—Frost in the bottoms at sunrise.

Plymouth, Wisconsin.—May 31.—The month has been dry and cold; vegetation is about ten days behind the average of the four preceding years. Early before sunrise this morning the thermometer showed only 29°.

Embarrass, Wisconsin.—May 1.—Snow from 4 a. m. to 2.30 p. m.; depth four inches. 6th and 7th, frost and ice formed. 13th, plum trees commencing to bloom. 14th, hard frost this morning. 22d, 23d, and 24th, ice a sixteenth of an inch thick in water-trough. 31st.—This has been a cold, dry month. the spring is very backward. Winter wheat was killed in some places.

Waupaca, Wisconsin.—May 1.—Four inches of snow fell this forenoon. 31st, quite a frost this morning, and considerable ice. May has been cold and dry; a few extremely warm days.

Genera, Wisconsin.—May 1.—Snow, rain, and thunder. 19th.—Lilacs in bloom; apple trees begin to blossom. 31st.—The month has been cold and dry; vegetation is backward.

Baraboo, Wisconsin.—May 1.—Tulips, crocuses, and snow-drops in blossom. 13th, crab-apple, plum, apple, and cherry trees in blossom. 17th, lilacs and flowering almond in blossom. 27th, 28th.—Quite a drought till this date; ground very dry to a depth of eight or ten inches. A fair, soaking rain now came, wet-

ting cultivated ground quite deep, not running off, but sinking down into the earth, doing an immense amount of good to crops which had started to grow.

Afton, Minnesota.—May 14.—Red currants and gooseberries in bloom. 17th, wild plum in full bloom. 19th, very heavy gale of wind from the northwest, commencing about 4 p. m., and ending with a thunder-storm at 7 p. m.

Minneapolis, Minnesota.—May 19.—Thermometer 90° at 12 m., and 57° at 7 p. m.; the wind changing from southwest to northwest. May 23, lilac, yellow currant, and wild columbine in flower.

Ceres, Iowa.—May 15.—Cherry and apple trees in full bloom. 23d, heavy white frost this morning. 31st.—The month has been very changeable and generally cool.

Lyons, Iowa.—May 17.—Heavy frost, doing much damage to grapes and other fruit. 19th, a hard wind-storm occurred at 11 p. m., continuing for about twenty minutes.

Iowa Falls, Iowa.—May 1.—Snow squalls from 6 a. m. to 3 p. m. 26th, the weather has been very dry, and corn has not come up well.

Clinton, Iowa.—May 2.—The Mississippi river is eighteen to twenty feet above low-water mark, and within eight inches of high-water mark. 3d, river at a stand. 5th, river falling.

Manchester, Iowa.—May 10.—Gooseberry bushes in full bloom, and plum trees beginning to blossom. Cattle have got their living for a week in the prairie. 14th, hard frost this morning. 18th, apple trees in full bloom. 23d, crab-apple trees in full bloom. The ground is getting quite dry.

Waterloo, Iowa.—May 14.—Last frost in this month. 31st has been for the most part cool and dry; corn, and especially small seed, is very backward and irregular in coming up.

Monticello, Iowa.—May 14.—A severe frost this morning; fruit buds not advanced far enough to be injured by it. 17th, a light frost, but no injury to vegetation. 25th, the weather is so dry that crops begin to suffer.

Fort Madison, Iowa.—May 15.—At 5 p. m. corn-crib struck by lightning and roof set on fire, which was soon extinguished. 18th, sorghum and early corn up. 28th, ground too wet to plough.

Dubuque, Iowa.—May 1.—The Mississippi river at a stand from the present rise, reaching within six inches of the high-water mark of June 14, 1859, which was the highest water since the observer has been keeping a record. 2d, 4th, 7th, hoar frosts. 9th, cherry trees in blossom.

Iowa City, Iowa.—May 2.—Hard frost; vegetation being late, was uninjured. 17th, 19th, light frost, doing no damage.

Leavenworth, Kansas.—May 31.—This has been an unusually wet, cloudy, and cold month for this climate, being nearly nine degrees below the average temperature, and over one inch above the average amount of rain. Lightning and thunder were frequent, and during a storm on the evening of the 19th four persons were killed by the lightning, while camped under a tree between the city and fort.

Atchison, Kansas.—May 19.—Heavy thunder-storm accompanied with high wind from the northwest, continuing from 6 to 7 o'clock p. m. 29th, light frost in the low grounds this morning.

Manhattan, Kansas.—May 11.—From 7½ to 9½ p. m., lightning came from a distant cloud in the northeast about fifteen degrees long and ten degrees high. The cloud remained nearly stationery for two hours, and no other portion of the sky was obscured. No thunder was heard. For near half an hour the flashes averaged about fifty to a minute.

Burlington, Kansas.—May 16.—Wild grapes begin to bloom. 27th, Clinton and Catawba vines begin blooming. 29th, considerable frost away from the river. Thermometer at sunrise 39°; on the ground, in vicinity of the frost, on old hay, 34°. Tender vegetables killed in exposed places, at least fifteen days

later than ever known before in this section of Kansas. 31st, river highest to-day for the month.

Glendale, Nebraska.—May 10.—Currants in bloom. 11th, apple trees and choke-cherry in bloom. 13th, thermometer at 5 a. m., 32°. The freeze did but little damage. 21st, honeysuckle in bloom. 28th, common locust in bloom.

Elkhorn City, Nebraska.—May 3.—Maple leafing. 13th, wild strawberry blooming. 14th, wild cherry blooming. Trees generally in leaf. 31st, there was some drought about the middle of the month, but rain came in season to bring up the planted corn.

Temperature of spring, 1866, 47.15°; temperature of spring for eight years 48.24°; temperature of May, eight years, 63.02°.

NOTES OF THE WEATHER—JUNE, 1866.

Standish, Maine.—June 1.—Heavy frost last night, killing in low places.

Gardiner, Maine.—Mean temperature of June 2.14° lower than the average of thirty years. Amount of rain 0.22 inch above the average of twenty-eight years.

Steuben, Maine.—June 1.—Ice this morning as thick as the glass on the roof of the green-house. 2d, the ground was white with frost and the intervals as white as winter. 10th, smart frost this morning.

Stratford, New Hampshire.—June 1.—Hard frost this morning; ice in a tub near the house one-sixteenth of an inch thick. 2d, first apple blossoms.

Little Genesee, New York.—June 1.—Frost. 29th, frost in some of the neighboring towns; no harm.

South Hartford, New York.—The mean temperature for June was unusually low. Many thunder-showers occurred during the month.

Nichols, New York.—June 1.—Large white frost this morning, but it did no damage.

Palermo, New York.—This has been the coldest June since 1859.

Rochester, New York.—The temperature of the first half of June exceeded the average for thirty years; but the last half was below the average, so that the whole month exceeded the average seven-tenths of a degree.

Geneva, New York.—The month of June has been about one-fourth of a degree warmer than the general average for this place. There has been 1.321 inches of rain more than the average, and so distributed as to be most favorable to the growth of vegetation.

Buffalo, New York.—The mean temperature of June was one degree lower than the average for eight years. The amount of rain did not vary much from the general average for the same period, and the showers were well distributed through the month. The terrific storm that burst upon the city at 4 p. m. of the 25th was one of the most destructive that ever visited this part of the State. Two buildings were struck by lightning during the thunder-storm on the morning of the 26th.

Newark, New Jersey.—The mean temperature of June was about three-tenths of a degree below the average for the month. The amount of rain was about eight-tenths of an inch below the average. There was comparatively little thunder and lightning, and there was no storm of any severity.

New Castle, Pennsylvania.—The ground was white with snow on the night of the 18th, about midnight. There were frequent warm showers during the entire month.

Tioga, Pennsylvania.—The whole month of June was very favorable for agricultural purposes.

Pennsville, Pennsylvania.—June was throughout very favorable to vegetation, measurably making up for the deficiencies of May, moderately warm and moist, yet no very heavy rains or floods or storms of wind, thunder or lightning.

Grenada, Mississippi.—Highest range of thermometer at sunrise, 75° on the 14th; lowest, 52° on the 30th. This is the coolest weather for the season by 4° that has been in this place in ten years past.

Norwalk, Ohio.—There was a very cold rain on the 17th and 18th of June. Many sheep perished in northern Ohio. It is estimated that in Huron county alone a loss of fifty thousand dollars was sustained. The fall of rain has been greater than in any month heretofore recorded by the observer.

Kelley's Island, Ohio.—The storm of the 18th and 19th of June was one of the most severe ever known at this season of the year. The destruction of life and property on the lake was very great. It is estimated that more than ten thousand sheep perished in Erie county alone from the effect of the cold and wet, immediately after shearing.

New Lisbon, Ohio.—June 29.—Some frost this morning.

Urbana, Ohio.—June 29.—Thermometer at sunrise 42° . There was frost in several localities about Urbana, but the observer could find no evidence of its effects on the most tender vegetation in his place.

New Harmony, Indiana.—The rain fall at this station for the months of April, May, and June is only 5.54 inches, the lowest amount that has fallen during the last fourteen years for the same period.

Sandwich, Illinois.—The average temperature of June was lower than that of the same month for nine years.

Riley, Illinois.—The mean temperature of this month was 1.78° below the average of June for eleven years, and the amount of rain about one inch below the mean for the same time; yet on account of the rain being divided so equally through the month the supply has been abundant. Every rain during the month (with but one exception) was accompanied with severe winds, sometimes approaching to a hurricane, which has packed the ground very hard and crusty.

Dubois, Illinois.—A greater amount of rain fell during June than in the same month for sixteen years.

Galesburg, Illinois.—June has been dry, and vegetation is backward, especially corn.

Manitowoc, Wisconsin.—June 1.—Hoar-frost; thermometer 35° at 5 a. m.

Embarrass, Wisconsin.—June 17.—Very slight frost this morning, nipping squash and other vines in a neighbor's field. 21, shower at midnight, with heavy thunder and sharp lightning; heavy wind, taking down very many trees, three miles north and west from here.

Plymouth, Wisconsin.—June 8.—From $4\frac{1}{4}$ to $6\frac{3}{4}$ p. m. a severe thunder-storm prevailed from west and southwest to northwest and north, attended by a hurricane-like wind from southwest to west, and some fall of hail.

Minneapolis, Minnesota.—June 25.—Tornado from 8.15 to 8.45 p. m. The entire roofs of large stone buildings, as livery stables, car factories, &c., were carried off, and the fronts of small buildings torn out.

Saint Paul, Minnesota.—The temperature of June was 1.85 degree below, and the amount of rain 1.94 inch above, the mean of eight years.

Afton, Minnesota.—June 25.—A heavy gale of wind, rain, and hail from 8.25 to 8.50 p. m., destroying an immense amount of property. The wind had been blowing gently from the southwest; about an hour before the storm the lightning was extremely vivid, and dark cumuli began to appear in the northwest; in a moment the wind changed into the west-northwest and came with the force of a tornado, sweeping everything before it.

Guttenberg, Iowa.—June 11.—Tornado at fifteen minutes to 2 o'clock; trees, fences, &c., destroyed.

Clinton, Iowa.—June was rather wet; there were a few days of very hot weather, but on the whole the month was cool.

Manchester, Iowa.—June 18.—Quite a frost this morning. 19, frost again; in some low places it is said the corn is cut down.

Leavenworth, Kansas.—The mean temperature of the month was 4.1° colder than the average of June for five years; and the amount of rain was 4.15 inches above the average for the same period. The 17th was the only clear day during the month, which was most remarkable for this country.

Burlington, Kansas.—For farming purposes the month of June was entirely too wet, there being fourteen days on which rain fell, though very light on some days.

Richland, Nebraska.—The month has been the coldest June, but one, recorded by the observer. The first half was wet, the last half not deficient in rain.



MONTHLY REPORT

OF

THE AGRICULTURAL DEPARTMENT.

SEPTEMBER, 1866.

WASHINGTON:
GOVERNMENT PRINTING OFFICE.
1866.

MONTHLY REPORT.

DEPARTMENT OF AGRICULTURE,

September, 1866.

In the present issue of the monthly will be found a digest of very recent foreign official statements, concerning the cereals and cotton, of especial interest to American producers. The imports of breadstuffs into Great Britain during the present year show an insignificant contribution from this country, but the acknowledged deficiency of the harvests of the season, both in France and Great Britain, promises a demand which will call forth, at remunerating prices, our surplus stores, which fortunately are sufficient to aid materially in equalizing the heavy balance of trade against us. In this connexion the following communication, bearing date September 7, received through the courtesy of the Assistant Secretary of State, from the United States commercial agent, E. D. Webster, will be read with interest :

“ For the information of the Commissioner of Agriculture and the grain-growers of the United States, I have the honor to state that the harvest in none of the midland counties, if, indeed, in any part of England, will come up to the expectations that were entertained a few weeks ago. It will fall very largely short, both in quantity and quality, of the grain. Unfortunately for the farmers, just as they were about ready to commence the wheat harvest, severe rains set in, which have continued, with very little interruption, down to this time, and the weather is still threatening. The consequence is, that in all parts of the country the grain has been very seriously damaged, and in some places whole fields have been rendered nearly worthless for human food. The crop of sound wheat in England, I am told by well-informed persons, will not be above one-half as much as that harvested last year. Very much of the wheat that will be harvested will be in the condition commonly described by our farmers, as ‘grown.’ Other kinds of grain have also suffered very severely. In France and other portions of Europe the crop of wheat is also reported small.”

It will be seen that this country has already assumed its appropriate leading position in furnishing the cotton supply of European manufactories, the receipts of Great Britain in seven months of the present year being 1,017,856 bales of 400 pounds each, greatly in advance of those from India, and almost equal to the combined supply of all cotton-exporting countries except the United States. A comparison of prices is suggestive of continued and assured supremacy of United States cotton in the markets of the world. The imports from the United States in the six months from January to June, inclusive, are computed at \$126,349,855 for 904,704 bales, or 34½ cents per pound; while all other imports averaged but 27 cents, and India cotton but 22 cents.

An interesting feature in the present report is the assumption of statistical relations with the south. The returns may not be sufficiently numerous to afford entirely accurate bases for estimates, but it is believed that fair approximations have been made. They make estimates of farm stock, as compared with the numbers of 1860, as follows: horses, 68 per cent.; mules, 70; cattle, 65; sheep, 80; hogs, 56 per cent. A table of estimated numbers of farm stock of each of these States will be found interesting. It shows an actual increase in the *sheep* of Texas amounting to 20 per cent.

The county estimates of the probable cotton crop (on the first of September) were less confident, for many reasons, and especially owing to the dangers to which the crop is liable in the future. A fair analysis, however, at that date of the elementary estimates, will make up a grand estimate of about 1,800,000 bales.

The estimates of the various farm crops warrant the assertion that the year has been one of remarkable fruitfulness. The promise of my last report, as to wheat, is fully sustained. Of corn there will be more than a thousand millions of bushels. Although late, fears of killing frosts have been realized only to a small extent; yet recently deluging rains have overflowed large areas of ripening corn in the west, and retarded its maturing generally, arousing some apprehensions of inferior quality in that which is not fully matured. For particulars of the several crops reference is respectfully made to the body of the report.

ISAAC NEWTON, *Commissioner*.

THE BEST COTTON SECTIONS.—No. 3.

GEORGIA.

The following counties in this State lead in cotton production :

Counties.	Acres im- proved.	Bales of cotton.	Bushels of corn.
Houston	184, 132	28, 852	648, 870
Stewart	145, 982	25, 902	509, 399
Burke	250, 814	23, 419	703, 842
Dougherty	91, 427	19, 580	356, 812
Meriwether	162, 619	18, 159	552, 670
Troup	146, 245	17, 978	520, 091
Monroe	194, 067	17, 165	547, 430
Talbot	132, 933	15, 366	501, 505

Georgia stands fourth upon the list of cotton-producing States, next below Louisiana, which yielded in 1850 scarcely more than a third of the product of Georgia, which at that time "ranked" Mississippi and all other States except Alabama. These ten counties, small as the exhibit appears, compared with those of States further west, supplied nearly one-fourth of the total for the State, which includes one hundred and thirty-two counties. They lie in the western part of the State.

Of the twenty-six millions of acres of land in farms, but eight millions are improved, and the average price is \$5 89. The farms are large, averaging 430 acres. In ten years preceding, nearly four millions of acres were taken into farms, almost half of it improved, and the number of farms advanced in still greater ratio, leaving the average acreage somewhat smaller than in 1850. The number of farms was, in 1850, 51,759; in 1860, 62,003. Number of slaveholders, 41,084; of slaves, 462,198; the average to each slaveholder 11 slaves. An examination of the returns of other farm products will show that cotton was less exclusively than in other States the object of farm industry.

TEXAS.

Texas comes next in order, with 431,463 bales. In 1850 the yield was 58,072 bales only. The plantations are of magnificent proportions, making an average of 591 acres, yet little more than half as large as in 1850. Less than ten per cent. is improved of the twenty-five millions of acres in farms; and the enormous quantity of one hundred and twenty-six millions of acres is yet unappropriated. The average price of farm lands is \$3 47 per acre. Eight counties (of one hundred and fifty-one in the State) yield considerably more than one-fourth of the cotton, as follows :

Counties.	Acres im- proved.	Bales of cotton.	Bushels of corn.
San Augustine	22, 972	31, 342	144, 246
Washington	76, 328	23, 221	541, 139
Harrison	117, 847	21, 440	660, 043
Walker	37, 587	11, 980	315, 328
Rusk	100, 037	11, 791	653, 563
Wharton	23, 239	11, 495	194, 100
Polk	35, 098	9, 307	294, 385
Matagorda	21, 290	8, 454	144, 425

The productions of San Augustine are worthy of remark. Nearly a bale and a half per acre is averaged for the entire area, with 144,246 bushels of corn in addition, 5,122 bushels of wheat, 7,370 of oats, 5,666 of peas, 1,322 of Irish potatoes, 17,328 of sweet potatoes, besides a little tobacco, rice, rye, and other products. And yet this land (one-sixth improved) was taxed in 1860 on a valuation of less than four dollars! This county, on the authority of the last census, stands first among all the cotton-yielding counties of the States for quantity, in proportion to acreage, of improved land.

ARKANSAS.

Arkansas contains land unsurpassed for cotton culture, mainly on the Mississippi and Red rivers. The plantations are comparatively new, and a large part of the western and northern portions of the State produce as yet comparatively little. Of 55 counties, but 15 yielded more than ten thousand bales each in 1860. The following table gives ten of the principal of these counties:

Counties.	Acres improved.	Bales of cotton.	Bushels of corn.
Chicot	66,423	40,948	329,941
Jefferson	65,387	28,586	490,765
Phillips	83,737	26,993	578,137
Marion	19,436	21,063	292,158
Arkansas	45,493	20,178	364,632
Lafayette	47,390	17,653	310,430
Union	101,424	17,261	452,553
Hempstead	65,548	16,548	563,093
Columbia	87,446	13,911	456,360
Desha	42,264	12,261	239,923

These ten counties produced about two-thirds of the crop of the State, the total product of the State for 1860 being 367,393 bales.

TENNESSEE.

This State has hitherto made a small show in cotton production. The culture has been mainly confined to the Tennessee valley and the section between the Tennessee and the Mississippi. Its accessibility at the close of the war induced extraordinary efforts to extend the culture. There are 88 counties in the State, 25 of which reported no cotton whatever in 1860. These ten counties produced about four-fifths of the crop of the State:

Counties.	Acres improved.	Bales of cotton.	Bushels of corn.
Lawrence	40,862	68,441	339,990
Fayette	184,624	35,281	852,980
Haywood	138,026	26,537	822,871
Madison	160,401	24,187	941,645
Shelby	134,430	23,179	769,484
Hardeman	111,888	19,237	636,621
Rutherford	184,468	12,229	1,561,185
Tipton	65,570	11,717	485,478
Giles	190,238	11,602	1,129,129

Six of these counties lie together east of Memphis and north of Mississippi, and two of the others are in the valley of the Tennessee. Lawrence and Fayette alone yielded more than a third of the crop of 1860. Yet there is opportunity for a considerable extension of cotton culture in Tennessee.

CONCLUSIONS.

A map of these cotton-producing States, with the area of each county actually used in a given year in cotton culture, indicated by a separate color, would astonish planters themselves, and others could scarcely believe that a few counties in each State produced the bulk of its cotton crop, and that a small portion only of the surface of those counties is whitened by the snowy product. The best cotton soils are therefore easily found, and may be indicated as follows, with reference to their fertility and present actual prominence in production :

1. The Mississippi bottoms, in Mississippi, Arkansas, and Louisiana.
2. The alluvial soils of the Red river.
3. The rotten limestone soils of Warren, Hinds, and Madison counties, in Mississippi.
4. The canebrake lands and river bottoms of central Alabama.
5. The bottom lands of Texas.

INSECTS INJURIOUS TO COTTON PLANTS.—NO. 3.

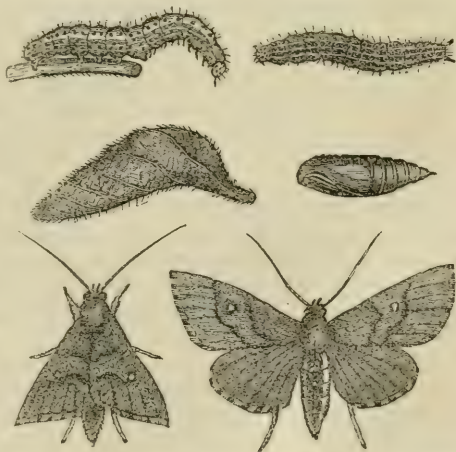
COTTON CATERPILLAR, OR COTTON ARMY-WORM.

Noctua (anomis) xyliua.—(SAY.)

The leaves of the cotton plant are sometimes entirely devoured by what is commonly known to the cotton planters as the "cotton caterpillar" or "cotton army-worm." In Florida this insect does not appear every year in such immense numbers as to destroy the crops, but only at uncertain intervals. In 1855 the caterpillars made their first appearance in the vicinity of Tallahassee, about the month of August, on the plantation of Mr. Hunter, and then spread gradually through the rest of the plantations in that region; and in October had already committed considerable damage in several cotton fields, not so severe, however, as had been anticipated.

The perfect insect, or fly, when at rest, is of a triangular shape, the head forming one, and the extremities of the wings the other two angles. The color of the upper wings is reddish-gray, a dark spot with a whitish centre appearing in the middle of each. The under wings are of a dark reddish-gray. The moth of this caterpillar loses much of its grayish cast when it becomes older, and the down has been rubbed from the wings. It then assumes more of a reddish tinge.

The perfect flies, or moths, are easily attracted by lights, and may be found resting in the daytime on the walls or ceilings of rooms, attracted there, no doubt, by the candles or lamps on the evening before. If undisturbed they will remain motionless during the day, but as night approaches they fly off with much vigor and strength. When in the open air they may be found among and under the leaves of the cotton



plant, as well as those of the weeds which surround the plantation. The eggs are deposited principally on the under sides of the leaves, but often upon the outer calyx; and I have even found them, when very numerous, upon the stem itself.

Wherever these caterpillars were very abundant, I counted from ten to fifteen eggs on a single leaf; they are very small, and difficult to be distinguished from the leaves themselves, on account of their green color. In shape the eggs are round and flat, and, when examined under a microscope, they appear regularly furrowed or ribbed. Their color, when freshly deposited, is of a beautiful semi-transparent sea-green. They are closely attached to the leaf on which they are laid. I am thus particular to state this, because, in an able article published some time ago, it was alleged that "the egg is fixed upon the leaf by a small filament attached by a glutinous substance." This mistake might the more easily be made by any person who had not himself observed the eggs when hatching, as that of the lace-wing fly is held by such a filament, and, moreover, is found in similar situations on the leaves, but generally with or near a colony of plant-lice, where the instinct of the parent lace-wing fly teaches it to deposit its eggs, and thus provide for a supply of fresh food for the young larvæ, which feed upon and destroy millions of the cotton-lice. There is a great difference also between the eggs of the caterpillar moth and those of the boll-worm moth, the first being, as before stated, round and flattened in shape, and green in color, whereas those of the boll-worm moth are not flat, but more of an ovoid shape, and of a dirty-yellowish tinge. I cannot state exactly what time is required to hatch the eggs after they have been laid by the parent fly, as I could not succeed in procuring any from the moths hatched and kept in confinement, although carefully preserved for the purpose. Dr. Capers says that it requires from fourteen to twenty days; but the eggs I found in the fields invariably hatched within a week from the time they were brought into the house. However, this must depend a great deal upon the state of the atmosphere and the warmth of the season. The young caterpillars, when hatched, very soon commence feeding upon the parenchyma, or soft, fleshy part of the leaves, and continue to do so until they become sufficiently large and strong enough to eat the leaf itself. They are able to suspend themselves by a silken thread when shaken from the plant. They change their skins several times before attaining their full growth, when they measure from one and a half to nearly two inches in length. The first brood of caterpillars, in August and September, were all of a green color, with narrow, longitudinal, light stripes along each side of their bodies, and two broader, light-yellowish stripes along each side of their backs, down the centre of each of which was one distinct, narrow, light-colored line. Each of the broader bands was marked with two black spots on each segment; and on each segment of the sides were three or more dark dots. The head was yellowish-green, spotted with black. The caterpillars of the second and third generations are of a much darker color than those of the first; their under parts are more of a yellowish-green, and their sides sometimes of a purple cast; their backs are black, with three distinct light-colored lines running down their length; and their heads are also darker, and of a yellowish-brown, spotted with black.

The question naturally arises, What causes this change of color in the latter part of the season, since the moths hatched from the lightest and darkest caterpillars prove to be exactly the same? Several planters attribute it to the influence of the sun, or to the food upon which they subsist; but this can scarcely be the case, as I have often observed individual caterpillars, evidently of the second or third generation, of the lightest green color, among a crowd of the black worms on the same leaf, as late as October, and exposed to the same influences of the sun.

These insects appear to multiply to the greatest extent in damp, cloudy

weather. When the older caterpillars are suddenly touched, they have the habit of doubling themselves up and springing to a distance of several times their length, but when undisturbed, and not feeding, they appear to rest on the leaf with the fore part of the body elevated and somewhat curved, sometimes keeping up a species of swinging or jerking motion from side to side, as if enjoying the heat of the sun.

This caterpillar is furnished with six pectoral, eight ventral, and two anal feet, of which, however, the two anterior ventral ones are imperfect, small, and apparently useless, so that its mode of progression somewhat resembles that of the span-worm, or looper, of the north.

In fifteen or twenty days after the caterpillar has attained its full size, it ceases to feed. It then doubles down the edge of a leaf, and fastens it with its own silk to the main part of the same leaf, or by webbing several leaves together, forming thereby a very loosely-spun cocoon. In this it transforms into a chrysalis, which at first is green, but in a short time after changes to a chestnut-brown, or even to almost black.

The first brood I raised were fifteen days in the chrysalis state before making their appearance as perfect moths; but, as this happened in a cold room and screened from the sun, I am of the opinion that, when they are exposed to a warm sun, in the open fields, the time must necessarily be much shorter. I raised one caterpillar late in the fall, which was even thirty days before emerging from its cocoon; but this I attributed entirely to the cold weather, and non-exposure to the sun. This fact would tend to show that the hatching of the chrysalis may be delayed, by peculiar circumstances, until long after the natural time.

The tail of the chrysalis is furnished with several small hooks, bent inward, by means of which it is enabled to hold fast to the loose web of which the cocoon is formed while emerging from the chrysalis skin, or, in case of accident, to prevent it from falling out of the cocoon during the prevalence of strong winds.

There have been many speculations regarding the origin and periodical visits of this moth. In 1843, Mr. Whitemarsh B. Seabrook read a "Memoir on the Cotton Plant" before the State Agricultural Society in South Carolina, in which he says:

"That the cotton-moth survives the winter is nearly certain. An examination of the neighboring woods, especially after a mild winter, has been often successfully made for that purpose. They were seen by the writer in May last, in the edge of a belt of pines, within a few yards of a cotton-field. In the winter of 1825, Benjamin Reynolds, of St. John's, Colleton, found them in the woods, principally on the cedar-bush, encased alive in their cover, impervious to water, and secured to a twig by a thread. The pupæ, wrapped in cotton leaves, from their bleak exposure, invariably die on the approach of cold weather."

From what was stated to me by some of the best planters in Florida, it would seem that this caterpillar appears on their plantations more or less, almost if not every year, and sometimes in a most unaccountable manner. Mr. E. Richards, of Cedar Keys, furnishes a statement which would seem to prove that it is migratory in its habits, as there is no other method of accounting for its sudden presence, except that, having previously existed on some other plant or weed, it had left it for food more congenial to its taste, although it has been asserted that the real caterpillar will eat nothing but cotton. He says:

"The last of July, 1845, these caterpillars made their appearance in a small field of three or four acres of sea-island cotton, planted on Way Key as an experiment to see if cotton could be advantageously cultivated on the Keys, no other cotton having been previously planted within eighty miles of them; but the whole crop was devoured. The caterpillar was at the same time destroying the cotton in the interior of the country."

In a statement made by Mr. William Munroe, of Gadsden county, Florida, to the Agricultural Department, he appears to think sea-island cotton not so liable to be attacked as the short-staple, when the two varieties are planted together. In his letter he says:

"I observed, when I had two fields of cotton adjoining, the one short-staple and the other sea-island, and the cotton caterpillars made their appearance, that they always destroyed the short-staple cotton first. Four years ago my crop was destroyed by the worm, and at that time they ate every green leaf on the short-staple cotton before they attacked the sea-island. This year (1855) my short-staple crop was destroyed by the worm on the Apalachicola river, and I observed that after the short-staple crop was all eaten, several sea-island stalks in the field, at a little distance, seemed to be uninjured; but, upon close examination, it was found that the worm had just commenced upon them. My impression from the above observation is, that if we in this country were to confine ourselves to the production of sea-island cotton, the attack of the caterpillar would be much less frequent, or would probably altogether cease."

In regard to the periodical visitations of these caterpillars, Dr. Capers remarks that their first appearance as destroyers of cotton was in the year 1800, and that in 1804 the crops were almost destroyed by them. A snow-storm occurred, however, and swept them away; but they were found the succeeding seasons, though in smaller numbers. In 1825 they were spreading, but perished again by a storm. In 1826 they destroyed the crops. The first notice of them in this year was on the first of August, at St. Helena. Soon after, they were found on all the seacoast, from New Orleans to North Carolina. On the 23d of the same month they had destroyed almost all the cotton leaves, but suddenly left the plant, though not for the purpose of webbing, as many of them were young. The cause of their sudden disappearance is stated to have been that they were too much exposed to the powerful effects of the sun, in consequence of the plants being nearly destitute of foliage and not protecting them from its direct rays.

Colonel Benjamin F. Whitner, of Tallahassee, has also written an interesting article on the depredations of this caterpillar in that vicinity. "In 1835," he says, "the crops were entirely exempt from the ravages of the caterpillar. In 1836 it appeared by the first of October, but did no harm. In 1837 no mention is made of it. These notes were made in Madison county, Florida."

Colonel Whitner then moved to Leon county, in the same State, where, in 1838, the caterpillar appeared early in August. The second brood stripped the plants by the 20th of September, and were so numerous that, after devouring the entire foliage, they barked the limbs and stalks, and ate out bolls nearly grown. In 1839 they were less numerous, and appeared late. In 1840 they came out from the 15th to the 20th of July, and by the 6th of September the plants were stripped of their leaves and young bolls, so that the entire crop was less than half of the average of other years. In 1841 this caterpillar was seen in Madison county from the 15th to the 20th of August, and in Leon county between the 20th of August and the 1st of September. The loss was serious, comprising probably one fifth of the crop. In 1842 no damage was done. In 1843 they appeared near Tallahassee on the 1st of August, and plantations were stripped by the 15th of September. The crop was cut off from one-third to two-fifths by the caterpillar and storm. In 1844 the cotton worm was found webbed up on the 13th of July, and by the 15th of September some plantations were entirely denuded; yet in other parts of the county the ravages were only partial. In 1845 there was no appearance of the caterpillar. In 1846 it was found webbed up by the 7th of July. The second brood began to web up on the 26th of that month, and by the 20th the parts of the field in which the worm was first seen were found to be eaten out, and the fly, the worms, large and small, and the chrysalides, were discovered at the same time, a state of things never observed before. By the 5th of September, the damage amounted to a loss of more than one-half of the crop. In 1847, although the fly was seen on the 16th of July, no injury was done to the crop. In 1848 it was but slightly injured; but the year 1849 was particularly marked by the ravages of the caterpillar, as well as that of 1852.

Colonel Whitner further observes that these worms appear in successive broods, and accomplish the cycle of their transformations in from twenty-six to

thirty days, which has also been corroborated by others. A caterpillar hatched from the egg, under my own inspection, however, passed twenty days before webbing up; but as it had been kept in confinement in a cold room, most probably the growth was not so rapid as it would have been in the open air and exposed to the warmth of the sun. The skin was shed five times during the period of its growth, and on the twentieth day the caterpillar began its web.

In a very interesting communication from Mr. E. N. Fuller, of Edisto island, South Carolina, he describes the depredations of the caterpillar in his neighborhood as follows:

"In 1840 I discovered their ravages, confined to the luxuriant portions of the fields, near the sea-coast of this island. The larvæ were destroyed in the latter part of September. In 1843 they were first heard of by the 1st of September, when their ravages, limited as in 1840, were quite perceptible at some distance. A frost on the 18th of that month probably destroyed them. In 1846 they appeared on the 20th of July, and by the 10th of September I suppose there was scarcely a cotton leaf or any tender portion of the plants remaining, and the worms not fully grown deserted the ravaged fields in millions in search of food, failing to find which they died from starvation. The crop of this island was about 40 per cent. of an average one. In 1849 the caterpillars made their first appearance on the 22d of August; their ravages this year, being confined to the low spots, caused no injury of moment. In 1852 they were found on the 10th of August about forty miles to the southward, and on this island about the 20th of the same month. They disappeared here, however, without doing injury.

"Thus they have appeared at regular intervals of three years. In 1855, when they were again looked for, an intense drought from the early part of July was sufficient to prevent their increase had they made their appearance. The old planters say that in 1804 and in 1825 they appeared as in 1846; that is, in periods of twenty-one years.

"As near as I can judge, not having made any record, the length of time from the hatching of the egg to the chrysalis is twelve days; remaining four days in the chrysalis state, and six days more to the hatching of the egg. This seems to be the case in a season of moisture and heat, without which their progress would probably be more slow."

Among the many remedies recommended for this fly, or moth, fires and lights in the fields have been highly spoken of as attracting and destroying them. But even this may have its disadvantages, as Colonel Whitner, who has tried it, states that "it attracts the flies from other plantations, although multitudes of moths perished in the flames." An article likewise appeared in some of the southern papers, not long since, recommending white cotton flags about a yard square to be placed in the field, by which the moths are attracted, and upon which they deposit their eggs.

It is very doubtful, however, whether this plan will prove of any practical utility, as it is not probable that the natural instinct of the moths would lead them to select these flags as proper places to deposit their eggs, in preference to the green leaves of the cotton plant, which forms the food of the young worms.

Plates similar to those recommended for the boll-worm have also been used with partial success. But to destroy this pest it will be necessary to ascertain exactly the date of the appearance of the first moths, and then to exterminate them in the best manner, and as quickly as possible. Or, as, when the caterpillars make their first appearance, a few plants, merely, on certain spots are infested by them, it would be well to cut down and destroy both plants and worms in such portions of the field before the insects complete their transformations and the moths are ready to deposit their eggs throughout the whole neighborhood. Could not some favorite aliment be found on which the moth prefers to feed, as in the case of the tobacco-fly, and then poison them with some effective agent? This would at once rid the fields of the first broods of moths, the progeny of which, in the second and third generations, might devastate half the fertile plantations of the south.

ANALYSIS OF SORGHUM.

DEPARTMENT OF AGRICULTURE,

Washington, D. C., September 27, 1866.

DEAR SIR: I herewith submit to you the analyses of two new varieties of Chinese sugar-cane, Nos. III and IV.

One hundred parts of No. III contain:

Uncrystallizable sugar	4.38
Cane sugar.....	7.86

Sum total of the <i>two</i> sugars.....	12.24
---	-------

Specific gravity of the juice.....	1.083
------------------------------------	-------

One hundred parts of No. IV yielded:

Uncrystallizable sugar	3.60
Cane sugar.....	5.94

Sum total of the <i>two</i> sugars.....	9.54
---	------

Specific gravity of the juice.....	1.075
------------------------------------	-------

Both kinds of sorghum yield a fair amount of molasses of good flavor. The juice mixed with beer yeast ferments, of course, like all sugary liquids, and the wine fermented yields upon distillation alcohol—100 pounds of cane sugar (C_{12} , H_{11} , O_{11}) yielding 51.12 pounds of absolute alcohol; 100 pounds of grape sugar (C_{12} , H_{12} , O_{12}) producing 46.46 pounds of absolute alcohol.

An important matter to the farmer, under the existing internal revenue laws, is the sale of sorghum molasses to the vinegar manufacturer, who, instead of employing high taxed spirits may use fermented molasses. One barrel of thick molasses, diluted with water until the saccharometer indicates ten per cent. of sugar, will probably yield six barrels of sugary liquid, which, after complete fermentation with beer yeast, (75° to 90° Fahr.,) may be poured at once upon the vinegar generators, or be first distilled and the alcohol thus obtained, after proper dilution, employed for the same purpose. With a complete fermentation two pounds of sugar yield one pound of alcohol. Every pound of alcohol produces a little less than one and one-third pound of radical vinegar—that is, hydrated acetic acid, ($C_4H_3O_3 + HO$.) Hence a 10 per cent. solution of sugar will give (by weight) a 5 per cent. alcohol, which will yield a vinegar containing a little less than 7 per cent. (by weight) of *hydrated acetic acid*, fully strong enough for household purposes.

I am, very respectfully, your obedient servant,

HENRY ERNI,

Chemist, Department of Agriculture.

Hon. ISAAC NEWTON,

Commissioner of Agriculture.

ANALYSIS OF GRAPES.

BY THE CHEMIST OF THE DEPARTMENT.

Designation of the grape.	Approximate percent- age of juice in the grape.	Specific gravity of the juice.	Percentage of ash in the juice.	Percentage of dry grape sugar in the juice, by Fehling's test.	Percentage of dry grape sugar by the optical test, (Mitscherlich.)	Percentage of acid above neutrality in the juice, calculated as dry tar- taric acid.
"Blue Alvey," variety of <i>Vitis cordifolia</i> , from Mr. S. W. Sharp, Newville, Cumberland county, Pa.	82.28 (Berries alone pressed.)	1.055	0.61	13.46 (Means of two determinations.)	14.08 (Means of six determinations.)	1.51 (Means of three determinations.)
"Blue Concord," from Dr. John B. Keasby, Azadia Vineyard, near Washington, D. C., variety of <i>Vitis labrusca</i> .	60. (Grapes entire pressed.)	1.065	0.54	15.15	17.65 (Oechsle's must scale.)	0.85
"Cigar box," variety of <i>Vitis cordifolia</i> , from Dr. John B. Keasby, Washington, D. C.	(Not determined, grape juice sent.)	1.075	(Not determined.)	18.65	18.30 (Oechsle's must scale.)	1.13
"Norton's Virginia Seedling," variety of <i>Vitis cordifolia</i> , from Dr. John B. Keasby, Washington, D. C.	.....do.....	1.080	....do....	18.07	.....	1.30

NEW PROCESS FOR DISSOLVING BONES USED AS FERTILIZERS.

The importance of phosphates, such as common bones, as fertilizers, especially in grain-culture, could hardly be extolled, and it would be presuming upon the intelligence of our farmers to say more than to recommend its practical application. There exist, however, some obstacles which yet prevent waste bones, nearly always cheap and within easy reach, from being generally used. The great distances in the far west, and other inconveniences, render their purchase in powder-form expensive, and for grinding them at home, or dissolving them in acid, there is still less chance.

Professor Ilienbof, in Russia, has, however, lately discovered a method for dissolving them, which must prove highly economical and suitable in unsettled countries, where, owing to the great abundance of forests, wood-ashes are cheaply secured, indeed are almost always ready at hand. This new process of treating bones consists of mixing them with wood-ashes and slaked caustic lime, and keeping the mixture constantly moist. As in the preparation of lye for manufacturing soap, the alkaline carbonates in the ashes, such as carbonate of potassa, are, by the action of caustic lime, converted into free, caustic potassa, attacking and quickly dissolving the bones.

The following practical example will illustrate the necessary proceeding:

Suppose the wood-ashes to contain about 10 per cent. carbonate of potassa, and that 4,000 pounds of bones are to be worked up: then we take 4,000 pounds of ashes, 600 pounds of caustic lime, and 4,500 pounds of water; a ditch some two feet deep, of such width and length as to hold 6,000 pounds of the mixture, is dug, and near it a second ditch, being some 25 per cent. larger, and both lined with boards. The lime is then slaked, and, when crumbled to a powder, mingled with the wood-ashes, and 2,000 pounds of bones piled up in layers

and covered up with the mass in the smaller ditch, 3,600 pounds of water added, and the whole left to itself. From time to time small quantities of water are added to keep the mass moist. As soon as it is found that the bones are so far decomposed that when pressed between the fingers they are soft and crumble, the second portion, *i. e.*, the other 2,000 pounds of bones, is brought into the larger ditch and covered in layers with the first mass, and left to decompose.

After the whole mass has undergone decomposition, it is suffered to dry by removing it, and, lastly, to facilitate its reduction to powder, mixed with 4,000 pounds of dry turf, or some other dry vegetable earth. The mixture is repeatedly stirred about with a shovel, and may at once be brought upon the fields. Manure prepared thus will contain about 12 per cent. of tribasic phosphate of lime, ($3 \text{ CaO}, \text{Po}_5$), 2 per cent. of alkaline salts, and 6 per cent. of nitrogenous matter.

This manure must, from its composition, produce an admirable effect upon grape-vines.

Liebig, in generally recommending this new fertilizer, thinks an addition of gypsum an improvement for many kinds of fruits.

BRITISH IMPORTS OF THE PRESENT YEAR.

The following are some of the imports into Great Britain for the seven months of the present year ending July 31, which are of especial interest to producers in the United States—beginning with cotton:

From—	Seven months ending July 31—		
	1864.	1865.	1866.
United States .....cwt.	98,824	82,963	3,635,202
Bahamas and Bermuda .....do.	186,858	155,833	5,931
Mexico.....do.	157,086	249,509	3,145
Brazil.....do.	218,070	263,767	450,166
Turkey.....do.	138,558	155,826	82,504
Egypt.....do.	796,853	904,319	690,267
British India.....do.	1,889,997	1,411,296	2,888,141
China.....do.	483,328	256,928	13,496
Other countries.....do.	155,050	208,621	164,134
Total.....	4,124,624	3,694,062	7,932,986

The above is an instructive exhibit. It shows a rapid approach to the attainment of an average cotton supply, and proves that this country still holds a controlling influence in the cotton trade. From a mere trifle in 1864, the receipts of 1865 from the United States assumed the leading position, distancing India by thirty per cent. These receipts of seven months—3,635,202 cwts.—are equivalent to 1,017,856 bales, of 400 pounds each. The receipts of six months—904,704 bales—cost \$126,349,855, or $34\frac{1}{2}$ cents per pound. The remainder of the imports of six months, from all other countries, amounted to only 1,015,462 bales, costing \$110,394,940, or 27 cents per pound. Here is a difference between our cotton and that of all other nations of $7\frac{1}{2}$ cents per pound, or more than twenty per cent. But this includes not only the boasted competition of British India, which has been so sedulously fostered, but the contributions of Egypt and other localities, of comparatively high cost. It will be seen that the Egyptian production is falling off, notwithstanding the

prices received were the highest on the list. Comparing, then, the India cotton alone with ours, it is found that the average price, from January to July, 1866, was 22 cents per pound, $12\frac{1}{2}$ cents per pound less than the cotton of the United States. Besides, the time of transportation is so much longer from India, that these prices are relatively higher than they otherwise would be, responding more slowly to the demands of a falling market.

Another fact is shown by this table, which illustrates the policy of England. A decrease is indicated from Egypt and China, and an increase from Brazil and India, the latter a colony, and Brazil a non-manufacturing country, whose increasing trade is fostered and courted.

The following, from the Bombay Gazette of August 6, confirms the views above expressed relative to the competition of India cotton:

"When the American war shut off the supply of cotton from that continent, Indian cotton came at once into demand, and the price rose with the increased demand. From four pence to twenty-four pence per pound the staple advanced with scarcely a check or a fall. If prices receded at times, it was only to recover themselves almost immediately, so that shippers in Bombay had little or nothing to fear from falling prices; and all, or nearly all, the shipments resulted in large profits. For three years this was the state of the cotton trade in Bombay—years of small risks and large profits. Bombay became immensely rich, money decreased in value, and there was general prosperity. With the close of the war and the opening of the American ports Indian cotton began to fall fitfully but steadily. And during receding prices the conditions of the trade in Bombay became reversed—heavy risks and heavy losses. Even now, though a singular good fortune has attended upon Indian cotton, maintaining prices far above what must be regarded as their normal limit, the tendency upon the whole is downwards. And as the few exceptional circumstances which yet remain to give more than ordinary vitality to the Indian cotton trade are removed or borne away by increasing supplies from other quarters, prices in all probability will continue to recede until they reach that limit at which the Indian ryot can afford to undersell his competitors; this limit is believed to be about 100 rupees per candy."

This limit, expressed in our currency, would be about nine cents per pound.

The following table exhibits the pitiable show made by the United States in supplying England with her breadstuffs:

From—	1864.	1865.	1866.
Russia cwts..	1,603,580	3,510,434	3,988,969
Prussia do...	2,746,198	2,729,900	2,450,902
Denmark do...	469,425	297,112	244,952
Schleswig, Holstein, and Lauenburg do...	181,896	159,211	117,530
Mecklenburg do...	358,254	312,333	455,222
Hanse towns do...	384,761	267,991	489,720
France do...	437,394	678,791	3,162,206
Turkey, Wallachia, and Moldavia do...	273,235	407,469	300,973
Egypt do...	366,856	.....	8,738
United States do...	5,062,724	405,307	323,160
British North America do...	495,375	101,594	8,789
Other countries do...	262,583	670,607	2,233,274
Total.....	12,552,284	9,540,749	13,784,435
Hanse towns cwts..	204,433	140,041	160,477
France do...	1,391,363	1,409,217	2,974,122
United States do...	1,214,343	150,188	168,949
British North America do...	211,828	70,464	6,166
Other countries do...	68,715	83,899	143,108
Total.....	3,090,682	1,853,809	3,452,822
Indian corn cwts..	1,408,500	2,645,872	7,653,850
Indian-corn meal do...	2,989	4,847	9,979

BRITISH IMPORTS OF LIVE STOCK.

The food supply of Great Britain is exercising the minds of British economists and the people generally. Before the advent of the cattle plague the imports of live stock were heavy and constantly increasing; now the scarcity is more severe, and must so continue. It will be seen that the importation has reached a million and a third of animals yearly, saying nothing of poultry *and a million and more of eggs daily*. The following is a table of these imports:

Years.	Cattle.	Sheep and lambs.	Pigs.
1856	83,306	145,059	9,916
1857	92,963	177,207	10,678
1858	89,001	184,482	11,565
1859	85,677	250,580	11,084
1860	104,569	320,219	24,452
1861	107,096	312,923	30,308
1862	97,887	299,472	18,162
1863	150,898	430,788	27,137
1864	231,734	496,243	85,362
1865	283,271	914,170	132,943
1866, (to, June).....	81,934	411,729	29,873

The following is a statement of the range of prices, for six years past, at the Metropolitan Market, London. The prices are not per pound, but for *eight pounds*—the shillings being (very nearly) twenty-five cents in federal money. It will be seen that mutton, as for many years past, is higher than beef—being, at the present time, from 85 cents to \$1 50 per stone of eight pounds, or 10½ to 18¾ cents per pound:

	Aug., 1861.			Aug., 1862.			Aug., 1863.			Aug., 1864.			Aug., 1865.			Aug., 1866.									
	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.							
Beef, from.....	2	10	4	10	3	4	4	10	3	4	4	10	3	4	5	0	3	0	5	6	3	8	5	6	
Mutton, from...	3	2	5	4	3	8	5	4	3	6	5	2	3	10	5	4	4	4	6	3	8	3	10	6	0
Lamb, from...	5	0	6	0	5	0	6	4	5	0	6	8	5	8	6	6	8	6	0	7	0	5	8	7	4
Veal, from.....	3	4	4	6	4	0	5	0	3	4	4	8	4	0	5	0	4	2	5	4	4	0	5	4	
Pork, from....	3	10	4	18	3	8	4	10	3	6	4	6	3	6	4	6	4	0	5	0	4	0	5	0	

AGRICULTURAL STATISTICS OF GREAT BRITAIN.

A statement of returns of the recent stock census of Great Britain was published in the monthly report for July. The subject of agricultural statistics is exciting the attention of the wisest political economists and most intelligent farmers of that realm. The Board of Trade, or "Committee of Privy Council for Trade," is now engaged in obtaining, through the co-operation of the "Under Secretary of State" or "Home Secretary," and the county magistrates under his direction, returns of the extent of land in Great Britain under the various crops of the present year. The following are extracts from the communication of the Lords of the Privy Council of Trade to the Home Secretary:

"The Board of Inland Revenue have undertaken the distribution and collection of the schedules prepared by the Board of Trade for the return of the acreage of crops; and my lords trust that the officers employed upon this occasion will be able to carry out this inquiry as successfully and with as little objection on the part of the occupiers as the officers who were charged with the duty of collecting the returns relating to live stock.

"I beg to enclose, for the information of the magistrates, copies of the form of schedule which will be issued for the return of crops, and of the directions for the proper filling up of the schedule which will accompany it.

"The return will only be required from occupiers of and above five acres of land, and the schedules will bear the post office stamp for free transmission to and from the several occupiers.

"My lords trust that the magistrates will be good enough to endeavor to remove any prejudices upon the part of their tenants or other neighboring occupiers against making a return of the extent of their crops, which is only required for public information, and will only be published in an aggregate for the counties or other large divisions of the country. •

"The occurrence of war in many of the corn-exporting countries of Europe, causes a knowledge of the producing capacity of the United Kingdom to be a matter of considerable interest at the present time."

DETERIORATION OF SUGAR CANE.

The cultivation of sugar cane in Louisiana was commenced more than a century ago. In 1828 the crop was 88,000 hogsheads, of 1,100 pounds each, according to the report of Mr. Champonier, becoming less until 1834, when it was 100,000 hogsheads; in 1840, 87,000; in 1844, 200,000; then sinking to 140,000 in 1846; in 1847, 240,000; in 1853 rising to 449,324, and falling in 1855 to 231,427. The census report of 1860 places the crop of the previous year at 221,726 hogsheads of sugar, and 13,439,772 gallons of molasses.

Cultivators in Louisiana write us that the cane is badly deteriorated. It has been stated that there is a remarkable tendency in some of the best varieties to deteriorate rapidly in that State. Efforts, either public or individual, should at once be energetically put forth for the regeneration and extension of the sugar culture. There is no doubt that such efforts would be well repaid in the future, as they have been in the past. The following suggestions of a correspondent in St. James parish, Louisiana, are worthy of attentive consideration :

"The Bourbon cane, or Creole cane, as it is called, was originally introduced and cultivated here. About the year 1828 it degenerated rapidly, and soon became worthless, when, fortunately, Judge Coiron, a good sugar-planter, residing below the city of New Orleans, in the parish of Plaquemines, discovered in the vicinity of Charlestown, South Carolina, or Savannah, Georgia, a beautiful ribbon cane, unknown here, and so called from its variegated bright longitudinal stripes of purple, yellow, and green color. It was a native of Java, no doubt brought thence by vessels in the Java coffee trade, and cultivated for the beauty of the plant. It has a thick, erect, dark-green foliage, contrasting with a large and beautiful sweet sugar cane. After having cultivated it on his plantation, Mr. Coiron soon discovered that its strong roots, thick skin or rind, and particularly its large coarse eyes, (from which it grows,) protected its germinating power from the damaging effects of frosts. It matured in eight months, was of hardy habits, making a large grain sugar, suited our soil and climate better than any other known variety, and produced from two and a half to three hogsheads of sugar per acre, proving a great success. It soon spread all over the sugar region of our State, just in time to save the sugar culture from being abandoned. Unfortunately it has also degenerated, and requires promptly to be renewed to save us from impending ruin. It will not yield more than one-half the sugar it used to produce formerly, and does not grow to half the size it once did, does not ratoon well, (*i. e.*, produce from the stubble,) and has become nearly all red, or of a dirty green color. It has a bad unripe taste when cultivated in new rich land, (which is certain proof of its degeneracy,) and has lost much of its hardy habit. This is no exaggerated picture. Permit me to add that twice our government expended large sums in trying to furnish us from abroad with suitable canes, and both times failed, owing partly to bad management and partly to a promiscuous gathering of all sorts of canes imported with worms.

"The canes imported in 1856 in Louisiana from South America and Brazil were boxed up carefully, and rotted. There is no cane suitable for us coming from those countries or from the West India islands, where they cultivate generally the Otahite cane (infested with worms) and other sorts having tender skins or rinds with small eyes, and being too delicate to stand frost. We have to resort to India and procure the real *Java Ribbon cane*. It is found in the Straits settlements of Penang, Batavia, Singapore, and Java, in its natural state, as fine as it ever grows. The Malays call it 'Tibboo Batavee,' which means Batavia cane. A few hundred canes will answer if properly managed. They should

be dug up by the roots just as they grow, and put up in bundles of eight or ten canes tied together. The leaves should be turned down towards the roots, and packed head and tail, with some straw or dried cane leaves, so as to protect the eyes; they should be handled with great care so as not to bruise them. They should be placed on board in a cool place, exposed at times to the air if possible, which will save them from dry rot. On approaching our country they should be well guarded from being frosted. The exposure to cold at 30° Fahrenheit will destroy their vitality and render them useless by killing the eyes. This might all be done by our national vessels which pass there; or our Boston or New York clippers, if requested by your department, would take pleasure in complying with our wish and in rendering so important a service to our portion of the country.

"There is also in the same vicinity, in the kingdom of Assam, on a large river like our Mississippi, a very large red cane, called by the Malays 'Tibboo merali,' red cane, which resembles and has nearly the same good qualities of the ribbon cane, and which might be advantageous to us. A few could be imported. All the other varieties do not suit us, and we do not want them. We do not wish to receive any from the West Indies for fear of introducing the worm called the 'grubber,' and getting unsuitable varieties.

"Some time after 1840 a few ribbon canes were sent from here to Tabasco, Mexico, and cultivated there on the river Tabasco. They have flourished there, the soil and climate suiting them well. I have seen canes brought from there which had not degenerated, and were as good as when first introduced. This is owing partly to the fact that they do not replant the cane but once in ten or twelve years, and also to the extreme richness of the soil in a warm climate. We might get some cane from there were it not for the state of the country, which is now in great confusion and anarchy.

"A schooner of fifty or sixty tons, drawing seven or eight feet of water loaded, can be freighted here to go after a load of canes for about \$2,000 in gold, and would make the trip in two months. The best season for planting such canes would be in October or November."

DOXATIONS FROM CALIFORNIA.

Persons visiting the museum of the Agricultural Department are always interested in noting the samples of Californian products, some of which are so exceptional in variety and extraordinary in size, as compared with those of the east. Californians have been public-spirited and generous in furnishing the department with these specimens.

Valuable additions to these collections have just been received of seeds and wines, which made the long voyage via Cape Horn. As much of the wine was of the last vintage, not having undergone its second fermentation when it started, it was expected that some loss would result.

The seeds were from Daniel L. Perkins, of Oakland county, numbering 101 bottles, as follows: Corn, 4; beans, 7; peas, 9; melons, 3; cucumbers, 4; squashes, 9; tomato, 7; cabbage, 13; cauliflower, 2; Scotch kale, 1; lettuce, 11; spinach, 2; peppergrass, 1; parsnip, 2; tobacco, 2; beets, 7; turnips, 5; kohl rabi, 2; carrots, 3; onions, 1; radish, 6.

The wines were sent by B. N. Bugby, Natoma vineyard. Eighteen bottles, one broken, one cork out—nearly empty; Griswold & Sons, Salt Spring valley, four bottles; Schell & Krouse, Knight's Ferry, four bottles, two broken; T. A. Paley, Woodbridge, San Joaquin, two bottles, one broken.

Specimens of the soil and subsoil of these different vineyards were also received with the wines.

Among these Californian products, are six bottles of wine from Messrs. Schell & Krouse, of their vintage of 1865, for analysis, together with samples of soil from their vineyard in Stanislaus county. The previous vintages have obtained much celebrity and several premiums. The soil of the vineyards is largely composed of the debris washed down from the volcanic regions of the mountains. The site has a southern aspect, and is flanked by hills composed of lava, white chalk, red and yellow ochre, iron rock, and sandstone. The wine is made from the Mission grape of California. Eight thousand cuttings were set out in 1860, were well cultivated and irrigated for two years,

since which they have received no artificial irrigation. The vines have been trained about 18 inches high, with bearing buds from 3 to 30, varying according to the strength of the stalk. Last year (1865) some of these stalks produced 70 pounds of well-matured grapes. The vineyard contains 28,000 vines, 12,000 of which will bear this year, and 21,000 cuttings were set out this spring. All the vines look well, and the bearing vines promise an abundant yield. They expect to make at least 10,000 gallons of wine next fall. There is nothing peculiar about making the wine. The grapes were permitted to get very ripe upon the stem, were then picked, crushed between two rollers, and dropped into a vat holding about 600 gallons, where they were left to ferment in the skin and stem from two to three days, when the juice was expressed and put into tanks of 600 gallons capacity to complete fermentation. From these tanks the sample was taken.

From B. N. Bugby, of the Natoma vineyard, at Folsom, nine varieties of wine, with a sample of brandy are received. The Beni Carlo is fermented on the skins for ten days to give it color and aroma. The other varieties are made by pressing out the juice and fermenting in the casks. The samples are as follows: White Muscat; Verdelho, white; white Malaga; black Zuifindol; Beni Carlo; white Reisling; white Pineaux; red Traminer. The vineyard contains about 48,000 vines, or about 56 acres, all of it broken and uneven. Not one rod of level land is contained in the vineyard. The soil is very shallow; the bed rock is of slate and "stands vertically."

Four bottles of Mission grape wine were received from J. W. Griswold & Sons, of the vintages of 1864 and 1865. Their vineyard is located in Calaveras county, on a southern slope, 1,000 feet above tide-water, near the great copper leads. Its soil is of a red color, very similar to that which is so common among the foot-hills of this section.

An analysis will be made of these wines and soils, and a report upon them will be given hereafter.

CATTLE IN TEXAS.

The table showing an estimate of the live stock in the southern States at the present time, (which is found on another page,) places the number of cattle in Texas at 3,111,475, against 3,535,768 in 1860. No other State on the list comes so near the standard of 1860. All kinds of farm stock have been maintained in a similar ratio, while sheep have been increased, according to this estimate, about twenty per cent. Immense numbers of cattle are already collected for driving or shipping to a market. Our correspondent in Calhoun county (on the Gulf coast) reports as many cattle as in 1860, held at prices remarkably low, as compared with prevailing rates in this section of the country. Beeves may be had for \$15 (in specie) per head, and steers at \$4 to \$5. It has been estimated that \$1,000,000 worth of stock is ready to go to market from Texas at the present time.

INSECTS.

The following extracts from correspondence will serve to illustrate the losses incurred through these pests of agriculture:

Trimble county, Kentucky.—"The tobacco-worm is the most formidable adversary the farmer has to contend against in the culture of the weed, and this season many planters in this county, and elsewhere, are providing and administering poison to the fly which lays the egg. The process generally pursued is

to drop a few drops of ratsbane, or other poison, in a liquid form, into the flower of the Jamestown weed, wild morning-glory, &c., into which they are sure to insert their large bills and die almost instantly. With the death of each fly, or miller, as they are familiarly termed, three to five hundred eggs are destroyed, each of which produces a worm."

Hardin county, Kentucky.—"Late crops of potatoes are injured by drought and the bugs."

Jackson county, Florida.—"The caterpillar has appeared in the cotton fields, too late, however, to do much damage." [This is doubtless the *Noctua xyliua* of Say.]

Jackson county, Illinois.—"I wish to tell you how I have got rid of the aphids, or plant-louse—a method practiced by myself and neighbors for many years. After the louse makes its appearance, pull off a waste leaf and turn it upside down on the cabbage that is lousy. Early the next morning the lice will be collected in great numbers on the under side of the leaf. If all are not thus caught and burned, repeat the operation." [This is worthy of further trial.]

Woodford county, Illinois.—"Potatoes have been damaged to some extent by a beetle, never seen here before the present season, about one-third of an inch in length, and having ten pale yellow and black longitudinal stripes upon its back." [Probably the ten-lined spearman, *Doryphora ten-lineata*.]

Huntington county, Indiana.—"Wheat has been damaged by the weevil." [Probably the wheat midge.]

Madison parish, Louisiana.—The [cotton] army worm is reported to have made its appearance. [*Noctua xyliua* of Say.]

Allegan county, Michigan.—"The regular plum curculio is at work all over the county upon the peaches. Many orchards are entirely stripped. We have also a blight among the apple trees, which, I think, must be the 'insect pear blight' described by Downing in his work upon American fruits. It seems to be general."

Ingham county, Michigan.—"The large white grub worm (probably the larvæ of the beetle species) is doing much damage to our pastures and meadows. Nor are corn and potato crops exempt." [Probably larvæ of the May-bug or beetle, *Lachnosterna*.]

Indiana county, Pennsylvania.—"Potatoes are being somewhat injured by the bugs." [Probably the ten-lined spearman, *Doryphora ten-lineata*.]

Hamilton county, Tennessee.—"The cut-worm is very destructive to late corn." [Probably the caterpillar of an agrotis.]

Dewitt county, Texas.—"The last few days exhibit the worm, which may or may not prove fatal to a large yield of cotton." [*Heliothis armigera*.]

Hardin county, Texas.—"The cotton army worm appeared in some places about August 12, and with the wet weather will cut the cotton crop short." [*Noctua xyliua* of Say.]

Conejas county, Colorado.—"In June there appeared millions of grasshoppers in this valley, which threatened in some districts to destroy all vegetation, but before they could spread over the entire country a green fly made its appearance which truly proved our salvation. As I found upon close examination, these flies deposited their eggs in the joint or neck of the grasshoppers, which, after two weeks' time, caused their death. The same examination was made by the military officers at Fort Garland, with like results" [Will our correspondent send some of the green flies to the department for examination?]

Goliad county, Texas.—"The caterpillar is now damaging the cotton very much, and it is feared that nine-tenths at least of the crop will be destroyed."

The following is an extract from a letter to our entomologist:

Atchison, Kansas.—"On the 11th instant we were visited by an innumerable host of grasshoppers, which are now devouring everything that remains green. Our late corn, our late potatoes, our young wheat crop, and our garden vegeta-

bles are being consumed. You are aware that the crops of last year were destroyed by them in Colorado, and that the crops of this spring were destroyed in Montana, the grasshoppers in each case having made their appearance in the fall previously. In the month of May, or 1st of June, these grasshoppers were at 'Junction,' about 300 miles west of Fort Kearney. About four weeks ago they reached Fort Kearney. On the first day of this month they were in Riley county, one hundred miles west of Atchison. They move in a direction south of east."

EXTRAVAGANT ESTIMATES OF AVERAGE YIELDS OF COTTON.

The extravagant calculations and expectations of newly-fledged cotton-planters, indulged last autumn and winter in advance of actual experiment, have doubtless been materially modified by the experience of this summer. These planters have learned ere this that the production of two bales, or even one bale, per acre, depends first upon the selection of a soil of the best quality, and afterwards upon a multitude of contingencies like those in which all our southern correspondence abounds, and from which no season or place is ever entirely exempt. A few instances will suffice:

Morgan county, Georgia.—"The spring was backward and wet. The summer has been remarkably warm and dry. It is the general verdict of old planters that there has not been such an unpropitious season for crops since 1838. Corn has been a complete failure in places where the drought was severe; in other sections it is an average crop. Cotton almost failed in the spring on account of poor seed and the heavy rains. Now the drought has almost finished it. We lack a good supply of seed; the old kinds have degenerated to such an extent that it is folly to use them."

Macon county, Georgia.—"Up to the 17th of June we had heavy and almost continuous rains, succeeded by a drought of three weeks and three days; then two or three heavy rains, succeeded by another drought of three weeks and three days; then rain almost every day since. The recent heavy rains have given the cotton the rust, and it is rapidly spreading over the fields, with few exceptions."

Kemper county, Mississippi.—"The corn crop was seriously injured by the late rains in the early part of June, and the cotton crop from the same cause, together with bad seed. An excessive drought set in after that time, and continued until the latter part of August, with the exception of partial showers. There are great fears entertained that many families will actually suffer."

Issaquena county, Mississippi.—"Up to the 20th of this month (August) we had no rain. From the 20th to the 28th we have been almost flooded. Consequently our cotton must shed off all the squares, and it is too late for others to form and make."

Lancaster county, South Carolina.—"We have had a continued drought of nine weeks. Our grain crop, and also cotton, is exhausted beyond recovery. The spring was wet, and the crops were small in consequence when the drought set in."

De Kalb county, Alabama.—"From the 20th of June until the 19th of August there was not enough rain to wet the parched earth to the depth of an inch, making it the most withering drought that we have had for a number of years."

New Carthage, Madison parish, Louisiana.—"Crop promises poorly. The army worm has made its appearance in the parish. It commenced raining on

the 20th instant, after a drought of several weeks—an event which will prove most injurious to the cotton.”

Lavaca county, Texas.—“Owing to heavy rains and ravages of worms, the cotton crop is in a very fair way of being cut short.”

Macon county, Georgia.—“A great deal of the crop has been abandoned, or is so hopelessly in the grass that it might as well be. I suppose that one-fifth at least of the cotton crop is in this condition.”

Giles county, Tennessee.—“From a recent tour through the cotton States, I am satisfied that we have the best prospect for a good crop of any of the seceded States.”

Greene county, Georgia.—“Our cotton prospects are gloomy indeed. Whole fields have been abandoned to the grass.”

FREEDMEN'S LABOR.

Our correspondence from the south is full of this important subject, as might naturally be expected. So violent a change of the labor system must inevitably produce extensive and discouraging derangements of agricultural industry. The wonder has been, with those who appreciated the radical differences between the two systems of labor and the natural effects of the involuntary system upon both laborer and proprietor, that so much of successful and harmonious adjustment should be effected as has already been attained. The negroes, as a body, were ignorant, and were expected to follow largely the bent of their own inclinations. To be *free* was to have a perpetual holiday, see something of towns and town life, and ape white people in taking their ease and doing as they pleased generally. On the other hand, the whites, who knew well how to manage them as slaves, were scarcely expected, in view of the excitements and irritations of the past and present, to exhibit a much greater degree of wisdom in dealing with their former slaves as freedmen. Both parties, by former education and resultant prejudices, were not well adapted to achieve success in the new *role* of free labor.

The situation was really perplexing, not to say distressing. The great demand of the day was for cotton; the negroes were the cotton producers; and the bread of laborers and employers depended upon the price of it, which, for the time, was sufficiently tempting. But these laborers lacked confidence in the employers, who, in return, had no confidence in the persistence and continuity of labor for which a contract should be made, and therefore dared not risk a failure that would involve a whole year's calculations. So the negroes last fall were to make no engagements at Christmas for the new year, and the whites were to turn adrift all hangers-on from the plantations, and sick and lame and helpless infants must expect no further aid. When Christmas came, whites were surprised at the alacrity with which contracts were entered into, and blacks were often astonished at the liberal terms offered by their old masters. So it proved then; and equally at fault will be the present prophecies of refusals of freedmen to renew contracts for another year. They supply the best attainable labor, the only skilled labor, that can be obtained at present for cotton production; and it is for the mutual interest of both parties to unite labor, capital, and wise superintendence in cotton culture. The reader will not fail to notice the chaos of conflicting and contradictory views upon this question in the following extracts from our correspondence. A fair analysis will satisfy intelligent people that employers and employed are gaining a better understanding of their new relations, and that time and experience are modifying the difficulties that have heretofore existed antagonistic to harmony and cordial co-operation. The following are brief extracts from letters of correspondents:

Beaufort, Washington county, North Carolina.—"Nearly all the negroes were carried off from this country in the course of war; since its conclusion about one-third of the former number have returned. As a general thing the women and children do not work in the fields at all; none but able-bodied hands are employed; the general estimate is that they now do about three-fifths the work they formerly did, that is, those employed do; where they rent land they work harder than they ever did; they will not work more than half the time at any price. One day's work will feed them for a week. * * * * We would welcome white men from any country," &c.

Brunswick county, North Carolina.—"The critical time for rice has yet to come, and unless our laborers exhibit more energy and zeal in the performance of their work, the whole crop, it is thought, will fall a prey to the rice birds."

Barnwell district, South Carolina.—"Not unfrequently the negroes would refuse to contract if an overseer was employed." Loud complaints are made in this letter of the idleness, ignorance, and vicious propensities of the negro. It is said that upon their own crops they work more carelessly than upon those of their employers; that they ape the manners and customs of their former mistresses and masters; that they refuse offers of work and break contracts when made; and, finally, that "they *cannot* make more than subsistence to the first of January, 1867."

Georgetown district, South Carolina.—"The freedmen having guns rove about the open woods, (our only pasturage,) killing the stock wherever they can find them. * * * It is difficult to get them to do a small day's work, and that, when said to be done, is done in such a careless and slovenly manner as not to be worthy of the name work."

York district, South Carolina.—Apprehensions of a famine are entertained, "owing to the drought and want of proper culture, which cannot be obtained under the present system of working freedmen."

Macon county, Georgia.—"A few of the freedmen are working tolerably well; a great many of them work neither much nor well; a great many are crowding into the towns and villages, where they manage to subsist somehow; a great many of the women are living in idleness upon the plantations, depending upon the labor of their husbands or children for support. Their labor is not of the reliable character it used to be, for they cannot be compelled to exert themselves. They are seldom in a hurry, no matter how pressing the necessity, and they can leave you if they choose at any time they please, by going out of the county into the jurisdiction of another Bureau officer. The fact is, when a negro gets tired of work, and won't do it, the most of the planters know that there is now no method by which he can be compelled to perform it, and they let him go without putting themselves to any trouble about it."

Greene county, Georgia.—"The freed negroes will not work, but live by stealing. It is not safe for a hog, or sheep, or cow, to run at large."

Washington county, Mississippi.—"I doubt if the negro will ever work again so well as he has this year. Thousands of planters will rent, or give up raising cotton, next year."

Hinds county, Mississippi.—"I am satisfied that the free negro will make a good average laborer when he learns that he is no longer the foundling of the government. I find that the negroes labor more faithfully and are better contented as they are removed from the influences of the 'Bureau.' The men, in most instances, are working very well."

Pike county, Mississippi.—"The difficulty of making the freedmen available in the production of cotton is inducing many to turn their attention to the cultivation of grapes."

Catahoula county, Louisiana.—"The freedmen do pretty well. Some few persons have had them quit, but there are a great many who will not work at all. It seems to be the opinion of all that they will be worse next year, and it

is a question with me what we shall do with those who will not work. We won't support them; and those who are willing to work don't want to do it. We have no influence to persuade them; I do not have aught to do with any but those I have employed, all former slaves, and they will do well. They are well pleased, and say that as long as I treat them as well as I do, they do not want any better home. If we could keep them away from towns and villages, and impress them with the idea that they must work, we could do as well as ever, and better too, if cotton continues to command a high price."

New Orleans, Louisiana.—"I would say, in connexion with the foregoing, that not more than half the labor is performed now in comparison with forced or slave labor."

Hardin county, Texas.—"Three-fourths of the freedmen have left and gone to the cities and towns. Crops planted are small in comparison with 1859, and almost all worked by white labor."

De Witt county, Texas.—"The agents of the Bureau arrived too late to answer the demands of the cotton crops. The blacks, in a majority of cases, refused to make contracts for more than a month, thus making the labor too uncertain for many planters to engage in the culture."

Mississippi county, Arkansas.—"Proportion of hands to acreage compared with 1859, I understand to mean how much land one nigger made free will cultivate compared to one slave in 1859. I say seven-tenths, some say three-fourths."

Hamilton county, Tennessee.—"There is a disposition on the part of the natives here to depreciate colored labor unjustly, for, properly treated and managed, the figures would show an equality between whites and blacks in this respect. Both work from a seemingly new impulse."

Fayette county, Tennessee.—"The negroes are indisposed to work unless by threats, and an immense amount of coaxing. The prospects are so discouraging that a great number of planters say they are abundantly satisfied with the experiment of freed labor. It is an utter impossibility to force the negro to comply with his contract. They leave the plantation whenever they please—stop work when it is absolutely necessary in grassy seasons, thus forcing the planters to go out and hire labor at exorbitant prices. Instances have been known where from three to four dollars per day and board have been given to save the crop."

Giles county, Tennessee.—"There are only about one-half the number of negro fellows in our county that there were in 1860, having been killed or died of disease in the Union army. There is a great disposition among them to flock to the towns and cities. Nine-tenths of all laborers engaged in farming never worked better."

CASUAL NOTES.

Imported fertilizers.—France is following ambitiously in the wake of England in improvements in agriculture. Her importations of fertilizers increase as this improvement progresses. In the first six months of the present year these imports have been as follows: Guano, 331,822 quintals; nitrate of potash, 5,694 quintals; nitrate of silver, 79,195 quintals; other manures, 49,296 quintals. A small portion of the nitrates of potash and soda have been exported.

The imports of fertilizers into England in the same time have been: guano, 72,352 tons; bones, 38,859 tons; besides a considerable quantity of other fertilizers.

The imports of fertilizers into the United States were, in 1864: guano, 9,568 tons, worth \$138,555; gypsum, 31,114 tons, worth \$28,012; and a considerable quantity of nitrate of soda, and other special fertilizers.

European crops.—There is less than an average yield of cereals in France, and a great activity has resulted in obtaining supplies from neighboring countries, followed by advances in the price of wheat. The English harvest, too, is somewhat deficient.

A promising indication of the future prosperity of the south, where a large element of the population has heretofore dreaded more the necessity of labor than the endurance of poverty, is found in the following extract from a letter from Texas:

"I would say, if you will promise not to tell any one, that there are some white folks here that have actually gone to work."

The amount paid for butter and cheese is scarcely realized. Consumption has greatly increased, in ten years past, in both products. The imports of butter alone, in 1865, into Great Britain, amounted to nearly thirty million dollars. The people of the United States, on the other hand, exported, last year, 21,388,185 pounds of butter, worth \$7,234,173, and 53,089,468 pounds of cheese, worth \$11,684,927.

A correspondent in Lamar county, Texas, says: "The season has been a peculiar one. I have been planting in this and the State of Mississippi for nearly thirty years, and have never known as difficult a season to make a crop. more rain has fallen in the last six months than I ever saw fall in any one year before; but I do not attribute the failure to that cause. In the first place, our lands were in a worse condition than I ever knew them, from the fact that nothing but grain had been raised for several years, and owing to the troubles of the country, planters had become very indifferent as to the cultivation of their lands. In the second place, the change in the status of the laboring class had a very decided effect upon the planting interest."

A correspondent in Berkeley county, West Virginia, reports a heavy acorn crop, and says that much mast-fed pork will be produced in that vicinity. He reports a poor yield of hay, scarcely a sufficiency for home consumption and none for market, but returns a product of 2,670 tons from 2,750 acres. Berkeley and Hampshire, between the mountains and the Shenandoah valley, are famous for the production of grass and hay, as the fact above, in a year of partial failure, would indicate. Clarendon, Arkansas: "The farmers have gone to work with a hearty good will, and if the price of cotton continues remunerative, it will require but a few years for the country, at least this section of it, to be restored to its former state of prosperity."

WHEAT IN TEXAS.—A correspondent at Honey Grove, Texas, says: "No spring wheat is raised in this section, nor so far as I can learn in northern Texas. The varieties principally raised are the smooth-headed May wheat, the Mediterranean, and the old white wheat to a limited extent. The usual average of wheat on the black lands of the above-mentioned counties is about eighteen bushels to the acre, but although the prospect was very fine last spring, it was blasted by the excessive rains. The quality, size, and weight of the wheat is decidedly inferior to that of 1865. We usually sow wheat from the middle of September to the first of November."

Sheep.—De Witt county, Texas: "Sheep are beginning to receive their merited attention. The assessor's roll for 1860 shows the number in this county at that time to be only 5,618 head, while in 1866 it is estimated that they will reach 50,000. The value in 1860 is put down at \$15,945, in 1866 at \$59,989.

Owing to the large numbers brought in from Mexico for sale our sheep, though really better than in 1860, are estimated at about one-third the value then. The low price of Texan wool also exerts an influence." Middlesex county, New Jersey: "The clip of wool and number of sheep are steadily increasing, and farming generally is done more intelligently, and consequently more thoroughly than formerly. Your department contributes its full share to this end. Your monthly reports are now looked for, and received with great solicitude and eagerness." Racine county, Wisconsin: "One-fourth more sheep than in 1865, but clip much lighter." Butler county, Kansas: "At least double the number of sheep in the county over last year."

Hogs.—Butler county, Kentucky: "Hogs are dying of cholera." Russell county, Kentucky: "Our hogs are dying off rapidly of cholera." Catahoula Parish, Louisiana: "Cholera has reduced the hog stock sadly this summer. The people are discouraged." Baltimore county, Md: "The number of hogs is two-tenths more than last year, and in good condition." Fayette county, Tennessee: "The hogs on all the plantations have been killed and eaten by negroes. They also trade them off with negroes living in villages." Beech Grove, Coffee county, Tennessee: "The number of hogs is more than will be needed for home consumption." Hardin county, Texas: "Hog cholera has destroyed almost all the hogs through my district." Berkeley county, West Virginia: "The hog cholera has increased very much in this county since August 1. The treatment with brimstone and copperas has proved the most effectual."

CONDITION OF THE CROPS IN AUGUST.

The following tables are compiled from returns of statistical schedules for August. For the first time all portions of the country are included. It is southern restoration which must be mutually agreeable and profitable to both sections and all parties. The correspondence from the south is generally prompt and full. In a month or two the corps of southern correspondents will be more complete and better organized.

A special effort was made to secure an estimate of the farm stock of the south, about which all have been so much in the dark. Returns on this point have been sufficiently full to warrant averaging for percentages in each State of the last census returns. From these, the numbers in each State have been calculated, with the following results:

Table showing the estimated number of live stock in 1866.

States.	Horses.	Mules.	Cattle.	Sheep.	Hogs.
Alabama	82,591	67,012	409,934	307,229	909,127
Arkansas	79,913	38,450	232,797	93,266	316,340
Florida	7,530	6,873	256,119	6,031	108,696
Georgia	71,924	60,641	583,411	384,463	1,425,281
Louisiana	33,842	54,139	227,059	90,626	272,845
Mississippi	67,015	63,112	401,449	282,105	812,367
North Carolina	99,436	33,916	496,476	399,126	1,261,753
South Carolina	48,675	35,567	315,201	270,880	482,889
Tennessee	226,887	69,489	382,365	510,389	1,079,767
Texas	293,128	60,167	3,111,475	904,035	1,193,233
Virginia	172,547	28,710	543,122	761,586	959,951
Total	1,183,488	578,076	6,959,408	4,009,736	8,822,249

This exhibit, as compared with the census returns of 1860, makes the percentages as follows: horses, 68 per cent.; mules, 70 per cent.; cattle, 65 per cent.; sheep, 80 per cent.; hogs, 56 per cent.

The following is a statement of the census returns:

Table showing the number of live stock in 1860.

States.	Horses.	Mules.	Cattle.	Sheep.	Hogs.
Alabama	127,063	111,687	773,396	370,156	1,748,321
Arkansas	140,198	57,358	567,799	202,753	1,171,630
Florida	13,446	10,910	388,060	30,158	271,742
Georgia	130,771	101,069	1,005,882	512,618	2,036,116
Louisiana	78,703	91,762	516,807	181,253	634,525
Mississippi	117,571	110,723	729,909	352,632	1,532,768
North Carolina	150,661	51,388	763,810	546,749	1,883,214
South Carolina	81,125	56,456	506,776	233,509	965,779
Tennessee	290,882	126,345	764,730	773,317	2,347,321
Texas	325,698	63,334	3,535,768	753,363	1,371,532
Virginia	287,579	41,015	1,044,467	1,043,269	1,599,919
Total.....	1,743,697	822,047	10,597,404	4,999,777	15,562,867

Table showing the condition of the crops on the first day of August, 1866.

States.	Quantity of winter wheat harvested compared with 1865.	Quantity of spring wheat harvested compared with 1865.	Total quantity harvested, taking winter and spring wheat together, compared with 1865.	Quantity of rye harvested compared with 1865.	Quantity of barley harvested compared with 1865.	Average condition of oats.	Average condition of corn.	Average condition of potatoes.	Average condition of sorghum.	Average condition of pastures.
Maine.....	10 $\frac{1}{2}$	11	11	11	10 $\frac{3}{4}$	11 $\frac{1}{2}$	10 $\frac{1}{2}$	10 $\frac{1}{2}$	-----	10 $\frac{1}{2}$
New Hampshire.....	10 $\frac{1}{2}$	10 $\frac{3}{4}$	10 $\frac{1}{2}$	11 $\frac{1}{2}$	10 $\frac{3}{4}$	10 $\frac{5}{8}$	10 $\frac{1}{2}$	10 $\frac{3}{4}$	-----	9 $\frac{3}{4}$
Vermont.....	8 $\frac{1}{2}$	12 $\frac{1}{2}$	11	10 $\frac{3}{4}$	11 $\frac{1}{2}$	12 $\frac{1}{2}$	10 $\frac{3}{4}$	10 $\frac{1}{2}$	-----	11 $\frac{1}{2}$
Massachusetts.....	9 $\frac{1}{2}$	10 $\frac{1}{2}$	10 $\frac{1}{2}$	9 $\frac{1}{2}$	10 $\frac{1}{2}$	11	11 $\frac{1}{2}$	10 $\frac{1}{2}$	10	9 $\frac{1}{2}$
Rhode Island.....	10	10	10 $\frac{1}{2}$	10 $\frac{1}{2}$	11 $\frac{1}{2}$	10 $\frac{1}{2}$	11	11	-----	10
Connecticut.....	8 $\frac{3}{4}$	10 $\frac{3}{4}$	10 $\frac{1}{2}$	9 $\frac{1}{2}$	10	10	11	10 $\frac{1}{2}$	9	11
New York.....	9 $\frac{1}{2}$	10	10	10 $\frac{1}{2}$	10 $\frac{3}{4}$	11 $\frac{1}{2}$	10 $\frac{1}{2}$	10 $\frac{1}{2}$	9 $\frac{3}{4}$	10 $\frac{1}{2}$
New Jersey.....	11	10 $\frac{3}{4}$	10 $\frac{3}{4}$	11 $\frac{1}{2}$	9 $\frac{1}{2}$	11	10	9 $\frac{3}{4}$	9 $\frac{1}{2}$	8 $\frac{1}{2}$
Pennsylvania.....	9 $\frac{1}{2}$	10	9 $\frac{1}{2}$	10	10	11 $\frac{1}{2}$	10 $\frac{3}{4}$	10 $\frac{3}{4}$	10	9 $\frac{3}{4}$
Delaware.....	12 $\frac{1}{2}$	12	12 $\frac{1}{2}$	10 $\frac{3}{4}$	12	12	12	11	11 $\frac{1}{2}$	10 $\frac{3}{4}$
Maryland.....	10 $\frac{1}{2}$	-----	7 $\frac{1}{2}$	9 $\frac{1}{2}$	10	12	12	11	10	10
Virginia.....	3 $\frac{1}{2}$	-----	3 $\frac{1}{2}$	5 $\frac{1}{2}$	-----	13	9 $\frac{1}{2}$	10 $\frac{3}{4}$	9 $\frac{1}{2}$	8 $\frac{1}{2}$
North Carolina.....	5 $\frac{1}{2}$	7	5 $\frac{1}{2}$	7 $\frac{1}{2}$	7 $\frac{1}{2}$	10	7 $\frac{1}{2}$	10 $\frac{3}{4}$	7 $\frac{1}{2}$	8 $\frac{1}{2}$
South Carolina.....	6	3 $\frac{1}{2}$	6 $\frac{1}{2}$	6 $\frac{1}{2}$	2	7 $\frac{3}{4}$	4 $\frac{1}{2}$	6 $\frac{1}{2}$	2 $\frac{3}{4}$	8
Georgia.....	5	-----	5 $\frac{1}{2}$	7 $\frac{1}{2}$	8	8 $\frac{1}{2}$	6 $\frac{3}{4}$	9	7 $\frac{1}{2}$	9 $\frac{1}{2}$
Florida.....	-----	-----	-----	6	-----	8 $\frac{1}{2}$	5 $\frac{1}{2}$	6 $\frac{1}{2}$	-----	15
Alabama.....	5 $\frac{3}{4}$	-----	5	7 $\frac{1}{2}$	8 $\frac{1}{2}$	7 $\frac{1}{2}$	4 $\frac{3}{4}$	8 $\frac{3}{4}$	6 $\frac{1}{2}$	10 $\frac{1}{2}$
Mississippi.....	4	6 $\frac{1}{2}$	4	4 $\frac{1}{2}$	5 $\frac{3}{4}$	3 $\frac{3}{4}$	4 $\frac{3}{4}$	8 $\frac{3}{4}$	6	14 $\frac{1}{2}$
Louisiana.....	1	1	1	5 $\frac{1}{2}$	-----	5 $\frac{1}{2}$	4 $\frac{3}{4}$	7 $\frac{1}{2}$	-----	13 $\frac{1}{2}$
Texas.....	13 $\frac{1}{2}$	9 $\frac{1}{2}$	15 $\frac{3}{4}$	8 $\frac{1}{2}$	7 $\frac{1}{2}$	9 $\frac{1}{2}$	9 $\frac{1}{2}$	6 $\frac{1}{2}$	16 $\frac{1}{2}$	13 $\frac{1}{2}$
Arkansas.....	5 $\frac{1}{2}$	7 $\frac{1}{2}$	5 $\frac{3}{4}$	4 $\frac{3}{4}$	10	7 $\frac{3}{4}$	6 $\frac{3}{4}$	10	35 $\frac{3}{4}$	12 $\frac{1}{2}$
Tennessee.....	6 $\frac{1}{2}$	6 $\frac{1}{2}$	6	9	7	12	11 $\frac{1}{2}$	12 $\frac{1}{2}$	10 $\frac{1}{2}$	12
West Virginia.....	4 $\frac{3}{4}$	9 $\frac{1}{2}$	4 $\frac{1}{2}$	9	11	12 $\frac{1}{2}$	11 $\frac{1}{2}$	12 $\frac{1}{2}$	10 $\frac{3}{4}$	10 $\frac{1}{2}$
Kentucky.....	8	10 $\frac{1}{2}$	7 $\frac{3}{4}$	8 $\frac{1}{2}$	8 $\frac{1}{2}$	11 $\frac{1}{2}$	11 $\frac{1}{2}$	12 $\frac{1}{2}$	10	10 $\frac{1}{2}$
Missouri.....	13 $\frac{1}{2}$	11 $\frac{1}{2}$	13 $\frac{1}{2}$	10 $\frac{3}{4}$	10 $\frac{3}{4}$	14 $\frac{1}{2}$	11 $\frac{1}{2}$	11 $\frac{1}{2}$	9	11
Illinois.....	8 $\frac{1}{2}$	11 $\frac{1}{2}$	10 $\frac{1}{2}$	10	10 $\frac{1}{2}$	11 $\frac{1}{2}$	10 $\frac{1}{2}$	9 $\frac{1}{2}$	9 $\frac{1}{2}$	10 $\frac{1}{2}$
Indiana.....	7 $\frac{3}{4}$	13	7 $\frac{1}{2}$	9	9	11 $\frac{1}{2}$	11 $\frac{1}{2}$	10 $\frac{1}{2}$	9 $\frac{1}{2}$	10 $\frac{3}{4}$
Ohio.....	6	10 $\frac{1}{2}$	6 $\frac{1}{2}$	8 $\frac{1}{2}$	9 $\frac{1}{2}$	11	11 $\frac{1}{2}$	12	10 $\frac{1}{2}$	11
Michigan.....	9	10 $\frac{1}{2}$	9 $\frac{1}{2}$	10	10 $\frac{3}{4}$	11 $\frac{1}{2}$	10 $\frac{1}{2}$	10	9 $\frac{1}{2}$	10 $\frac{3}{4}$
Wisconsin.....	6 $\frac{3}{4}$	12	11 $\frac{1}{2}$	9 $\frac{1}{2}$	9 $\frac{3}{4}$	10	9 $\frac{3}{4}$	9 $\frac{1}{2}$	9	10 $\frac{3}{4}$
Minnesota.....	11 $\frac{1}{2}$	11 $\frac{1}{2}$	12	10 $\frac{1}{2}$	9 $\frac{1}{2}$	10 $\frac{1}{2}$	9 $\frac{1}{2}$	9 $\frac{1}{2}$	10	11 $\frac{1}{2}$
Iowa.....	8 $\frac{1}{2}$	12 $\frac{1}{2}$	12	10	10 $\frac{1}{2}$	11 $\frac{1}{2}$	9 $\frac{1}{2}$	9 $\frac{1}{2}$	9 $\frac{1}{2}$	11
Kansas.....	14 $\frac{1}{2}$	13	13 $\frac{1}{2}$	11 $\frac{1}{2}$	11 $\frac{1}{2}$	13 $\frac{1}{2}$	11 $\frac{1}{2}$	11 $\frac{1}{2}$	10	11 $\frac{1}{2}$
Nebraska Territory.....	9 $\frac{1}{2}$	14 $\frac{3}{4}$	13 $\frac{1}{2}$	13 $\frac{1}{2}$	13 $\frac{1}{2}$	12 $\frac{1}{2}$	10	10 $\frac{1}{2}$	10 $\frac{1}{2}$	11 $\frac{1}{2}$
Utah Territory.....	10	11 $\frac{1}{2}$	11 $\frac{1}{2}$	10 $\frac{1}{2}$	12	12 $\frac{1}{2}$	9 $\frac{3}{4}$	10	8 $\frac{1}{2}$	12

The returns above, so far as relates to the southern States not heretofore represented, are made in comparison with 1860, instead of 1865. This fact should be kept in view.

Table showing the condition of the crops, &c.—Continued.

States.	Average condition of flax.	Quantity of timothy harvested compared with 1865.	Average condition of timothy when harvested.	Quantity of clover harvested compared with 1865.	Average condition of clover when harvested.	Quantity of hay of all kinds compared with 1865.	Average of tobacco planted compared with 1865.	Average condition of tobacco.	Quantity of wool sheared compared with 1865.	Number of lambs this spring compared with 1865.
Maine.....	10 $\frac{1}{4}$	7 $\frac{1}{4}$	10 $\frac{3}{4}$	5 $\frac{1}{4}$	10 $\frac{1}{4}$	6 $\frac{3}{4}$	10	9 $\frac{1}{4}$	11	11
New Hampshire.....	10	7 $\frac{1}{4}$	9 $\frac{1}{4}$	7 $\frac{1}{4}$	9 $\frac{1}{4}$	7 $\frac{1}{4}$	9 $\frac{1}{4}$	9 $\frac{1}{4}$	11 $\frac{1}{4}$	10 $\frac{1}{4}$
Vermont.....	10	8	10 $\frac{1}{4}$	7 $\frac{1}{4}$	10 $\frac{1}{4}$	9 $\frac{1}{4}$	9 $\frac{1}{4}$	9 $\frac{1}{4}$	10 $\frac{1}{4}$	10 $\frac{1}{4}$
Massachusetts.....	12	8	10	7 $\frac{1}{4}$	9 $\frac{1}{4}$	7 $\frac{1}{4}$	8	8	10 $\frac{1}{4}$	10 $\frac{1}{4}$
Rhode Island.....	10	8 $\frac{1}{4}$	10	7 $\frac{1}{4}$	10	8	8	8	10 $\frac{1}{4}$	10 $\frac{1}{4}$
Connecticut.....	10	9 $\frac{1}{4}$	9 $\frac{3}{4}$	7 $\frac{3}{4}$	9 $\frac{1}{4}$	9	9 $\frac{1}{4}$	9 $\frac{1}{4}$	10	10
New York.....	10	9 $\frac{1}{4}$	10	9 $\frac{1}{4}$	10	9 $\frac{1}{4}$	7 $\frac{1}{4}$	9 $\frac{1}{4}$	10 $\frac{1}{4}$	10 $\frac{1}{4}$
New Jersey.....	10	7 $\frac{1}{4}$	10 $\frac{1}{4}$	7 $\frac{1}{4}$	10 $\frac{1}{4}$	7 $\frac{1}{4}$	8	9	10 $\frac{1}{4}$	10
Pennsylvania.....	10	9 $\frac{1}{4}$	10 $\frac{1}{4}$	7 $\frac{1}{4}$	10	7 $\frac{1}{4}$	8	9 $\frac{1}{4}$	10 $\frac{1}{4}$	10 $\frac{1}{4}$
Delaware.....	9	9 $\frac{1}{4}$	9 $\frac{1}{4}$	9	10	9 $\frac{1}{4}$	10	10	11	10
Maryland.....	10 $\frac{3}{4}$	8	10	8	10 $\frac{1}{4}$	8 $\frac{1}{4}$	10 $\frac{1}{4}$	11	10 $\frac{1}{4}$	10 $\frac{1}{4}$
Virginia.....	9 $\frac{1}{4}$	8	9 $\frac{1}{4}$	6	9 $\frac{1}{4}$	7	5	8	7 $\frac{1}{4}$	7 $\frac{1}{4}$
North Carolina.....	8	8	9 $\frac{1}{4}$	7 $\frac{1}{4}$	9 $\frac{1}{4}$	10	10 $\frac{1}{4}$	9 $\frac{1}{4}$	8	7 $\frac{1}{4}$
South Carolina.....	8	8	9	1	6 $\frac{1}{4}$	4 $\frac{1}{4}$	6 $\frac{1}{4}$	5 $\frac{1}{4}$	10	9
Georgia.....	8	8	9	1	6 $\frac{1}{4}$	4 $\frac{1}{4}$	6 $\frac{1}{4}$	5 $\frac{1}{4}$	10	9
Florida.....	8	8	9	1	6 $\frac{1}{4}$	4 $\frac{1}{4}$	6 $\frac{1}{4}$	5 $\frac{1}{4}$	10	9
Alabama.....	8	8	9	1	6 $\frac{1}{4}$	4 $\frac{1}{4}$	6 $\frac{1}{4}$	5 $\frac{1}{4}$	10	9
Mississippi.....	10	8	9	1	6 $\frac{1}{4}$	4 $\frac{1}{4}$	6 $\frac{1}{4}$	5 $\frac{1}{4}$	10	9
Louisiana.....	10	8	9	1	6 $\frac{1}{4}$	4 $\frac{1}{4}$	6 $\frac{1}{4}$	5 $\frac{1}{4}$	10	9
Texas.....	10	8	9	1	6 $\frac{1}{4}$	4 $\frac{1}{4}$	6 $\frac{1}{4}$	5 $\frac{1}{4}$	10	9
Arkansas.....	10	8	9	1	6 $\frac{1}{4}$	4 $\frac{1}{4}$	6 $\frac{1}{4}$	5 $\frac{1}{4}$	10	9
Tennessee.....	11	8	9	1	6 $\frac{1}{4}$	4 $\frac{1}{4}$	6 $\frac{1}{4}$	5 $\frac{1}{4}$	10	9
West Virginia.....	10	8	9	1	6 $\frac{1}{4}$	4 $\frac{1}{4}$	6 $\frac{1}{4}$	5 $\frac{1}{4}$	10	9
Kentucky.....	10	8	9	1	6 $\frac{1}{4}$	4 $\frac{1}{4}$	6 $\frac{1}{4}$	5 $\frac{1}{4}$	10	9
Missouri.....	10	12 $\frac{1}{4}$	12 $\frac{1}{4}$	10 $\frac{1}{4}$	11	12 $\frac{1}{4}$	10	10 $\frac{1}{4}$	11	11
Illinois.....	10	9 $\frac{1}{4}$	10 $\frac{1}{4}$	9 $\frac{1}{4}$	10 $\frac{1}{4}$	9 $\frac{1}{4}$	9	10	11	11
Indiana.....	10 $\frac{1}{4}$	9 $\frac{1}{4}$	10 $\frac{1}{4}$	7 $\frac{1}{4}$	10 $\frac{1}{4}$	8 $\frac{1}{4}$	8 $\frac{1}{4}$	10	11	11
Ohio.....	10 $\frac{1}{4}$	9	10 $\frac{1}{4}$	7 $\frac{1}{4}$	10 $\frac{1}{4}$	9	9 $\frac{1}{4}$	10 $\frac{1}{4}$	10 $\frac{1}{4}$	10 $\frac{1}{4}$
Michigan.....	9 $\frac{3}{4}$	10	10 $\frac{1}{4}$	8	9 $\frac{1}{4}$	9 $\frac{1}{4}$	9 $\frac{1}{4}$	9 $\frac{1}{4}$	11	10 $\frac{1}{4}$
Wisconsin.....	10	10 $\frac{1}{4}$	10 $\frac{1}{4}$	10 $\frac{1}{4}$	10 $\frac{1}{4}$	10 $\frac{1}{4}$	10	9 $\frac{1}{4}$	12 $\frac{1}{4}$	11
Minnesota.....	11	12	11 $\frac{1}{4}$	10 $\frac{1}{4}$	10 $\frac{1}{4}$	12 $\frac{1}{4}$	9 $\frac{1}{4}$	9 $\frac{1}{4}$	12 $\frac{1}{4}$	12 $\frac{1}{4}$
Iowa.....	10 $\frac{2}{5}$	11 $\frac{1}{4}$	11 $\frac{1}{4}$	10	10 $\frac{1}{4}$	12	9 $\frac{1}{4}$	9 $\frac{1}{4}$	12	11 $\frac{1}{4}$
Kansas.....	10	11 $\frac{1}{4}$	11 $\frac{1}{4}$	11 $\frac{1}{4}$	12	10 $\frac{1}{4}$	9 $\frac{1}{4}$	10	13	14
Nebraska Territory.....	10	10	10	10	10	10 $\frac{1}{4}$	11 $\frac{1}{4}$	10 $\frac{1}{4}$	12 $\frac{1}{4}$	12 $\frac{1}{4}$
Utah Territory.....	10 $\frac{1}{4}$	10 $\frac{1}{4}$	11 $\frac{1}{4}$	9 $\frac{1}{4}$	9 $\frac{1}{4}$	12	9	9 $\frac{1}{4}$	10	10 $\frac{1}{4}$

CROP RETURNS FOR SEPTEMBER.

The schedules for returns bearing date September 1, to which responses have been full and general, embraced mainly items concerning the current condition of fall crops, of which decisive information will be given in succeeding returns.

Sorghum.—New Jersey, Indiana, Kansas, Arkansas and Texas, report average prospects; Kentucky, Ohio, Michigan, Minnesota and Iowa, stand very slightly below an average; the southern States vary greatly, from three-tenths in Louisiana and South Carolina, five-tenths in Georgia and Alabama, eight-tenths in Mississippi and North Carolina, to eight and a half in Virginia.

Grapes.—The indications are not favorable for a heavy crop. Ohio, eight-tenths; Michigan, Iowa, Missouri, Indiana, nine to nine and a half tenths. In the south the returns are not full enough to be reliable, and vary from five-tenths to ten-tenths.

Hay.—This crop is short in quantity in the New England States, the middle and central western, from one to three-tenths, but larger than an average in the trans-Mississippi States. The quality is generally a full average or above it.

Stock hogs.—An increase over 1865 is reported in Maryland, Ohio, Indiana, Minnesota, Iowa, Missouri, Kansas, as well as a slight increase in Kentucky; an average in Connecticut, New York, and New Jersey; nearly an average in Illinois and the New England States.

Corn.—Everywhere throughout the north the record is favorable for corn, both as to acreage and condition. In Indiana, only a single county made return of less than 12-tenths; Ohio and Kentucky, 11-tenths; Illinois, 9.4-tenths; Michigan, 10.8. In point of condition few States, except in the south, fall below 10-tenths. Virginia, 8.2; North Carolina, 6; South Carolina, 3.5; Georgia, 4.7; Florida, 7; Alabama, 4.7; Mississippi, 4.4; Louisiana, 5; Texas, 9.7; Arkansas, 5.6; Tennessee, 9. The present crop will, undoubtedly, be the largest ever known, amounting to more than a thousand millions of bushels. Apprehensions have been felt that a killing frost might supervene and produce immense damage, as the ripening was everywhere in a backward condition. Reports have just been received of an injurious frost in Illinois. If it has escaped essential damage thus far, future frosts can scarcely be expected to do much damage.

Potatoes and "root crops".—"Roots" and tubers are in excessive supply and in excellent condition. Illinois, Missouri, and Delaware, with a few of the southern States, are the only States returning less than an average crop of potatoes.

Gardens.—No item in the list makes so good and uniform a show as this. Only Delaware and Mississippi fall below 10, and Texas and Missouri reach 12.

Hops.—More than an average.

COTTON.—Reference is made to extracts from letters in another place, indicating some of the drawbacks which have beset cotton culture, especially during the present season. The derangement of labor, and the seeding of land to weeds and noxious grasses during the past years of war and waste have necessarily increased the ordinary hindrances to successful culture. But the inducements were worthy of the most daring and persistent attempt. It is too early yet to predict the result of the year's efforts with certainty. Insect enemies may yet affect the result. Our corps of observers is not sufficiently complete to warrant a reliable estimate of the amount of cotton to be expected; but we give the result of their estimates, (each for his own county,) fairly compiled and computed, as a basis of estimates for the several States, to be modified, of course, as more complete information is obtained in the progress of the cotton

harvest. The estimates are in *tenths*, not of an average crop, but of the excessive and never-equalled crop which the census records :

	Tenths.	Pounds.
Alabama	3	296, 986
Arkansas	4	146, 957
Florida	3 $\frac{1}{3}$	21, 717
Georgia	2 $\frac{1}{2}$	175, 460
Louisiana	3 $\frac{3}{4}$	281, 651
Mississippi	2 $\frac{1}{2}$	300, 626
North Carolina	5	72, 757
South Carolina	2	70, 282
Tennessee	10	296, 464
Texas	4	172, 585
		<hr/> <hr/> 1, 835, 485

RETURNS FROM PACIFIC STATES AND TERRITORIES.

California.—Returns from this State, so far as received, place the quantity of wheat harvested, compared with 1865, at 11 $\frac{1}{2}$ tenths ; barley, 12 tenths ; oats, 11 $\frac{1}{2}$ tenths ; corn, (condition of, on August 1st,) 10 tenths ; potatoes, 11 $\frac{1}{2}$ tenths ; sorghum, (little cultivated,) 10 tenths ; pasture, 12 $\frac{1}{2}$ tenths ; flax, (little grown,) 10 tenths ; timothy, (quantity of, compared with 1865,) 11 tenths ; clover, 10 tenths ; hay, 12 tenths ; wool, 11 tenths ; lambs, (number of, compared with 1865,) 11 tenths.

Oregon.—Wheat, (quantity compared with 1865,) 12 tenths ; rye, 10 tenths ; barley, 12 tenths ; oats, 12 tenths ; corn, 9 tenths ; potatoes, 12 tenths ; pasture, (average condition of,) 12 tenths ; hay, (quantity compared with 1865,) 16 tenths ; wool, 11 $\frac{1}{2}$ tenths. But little flax and sorghum are raised in this State ; where grown, their condition is reported good. The wet spring caused an unusual growth of grass and a rich pasturage. The rains delayed the harvest, but gave heavy grain crops.

Nevada.—Wheat, (quantity of, compared with 1865,) 25 tenths ; potatoes, above an average crop throughout the State ; pasturage, 12 tenths ; hay, 9 tenths ; fruit, reported very scanty, though in tolerable condition.

Washington Territory.—Returns thus far received show—wheat, 12 tenths ; oats, 11 tenths ; pasturage, 13 tenths ; corn, 11 tenths ; potatoes, 12 tenths. But little fruit is raised ; strawberries and raspberries show well where mention is made of them. Flax and sorghum are not found in our returns.

Dakota Territory.—From our imperfect returns the root crop will average 14 tenths ; wheat, 20 tenths ; oats, 12 tenths ; hay, quantity and condition superior. Grasshoppers are reported to have made their appearance in Clay county, and it was feared that they would injure the crops in other parts of the Territory.

New Mexico.—The returns, though inadequate, show nearly double the quantity of wheat, compared with last year ; corn, 11 tenths ; pasture in excellent condition ; tobacco and wool up to the average.

Colorado.—Wheat, 11 tenths ; oats, 11 tenths ; corn, 12 tenths ; potatoes, 11 tenths ; acreage of root crop, as compared with 1865, 19 tenths ; the indications are for an unusual yield ; hay, 10 tenths. The season has been unusually favorable for crops of all kinds.

METEOROLOGY.

JULY AND AUGUST, 1866.

Table showing the highest and lowest range of the thermometer, (with dates prefixed,) the mean temperature, and the amount of rain, (in inches and tenths,) for July and August, 1866, at the following places, as given by the observers named. The daily observations were made at 7 o'clock a. m. and 2 and 9 p. m.

States and places.	JULY.						AUGUST.					
	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain.	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain.
MAINE.												
		°		°	°	In.		°		°	°	In.
Steuben.....	13	90	19	55	74.6	4.30	3	75	24	48	57.3	4.31
Lee.....	7, 8, 13	88	19	54	66.7	3.75	13, 14	82	25	48	64.0	0.89
Barnard.....	12	88	22	57	69.1	5.45	12, 13	76	21, 27	50	61.3	7.11
West Waterville...	7, 17	91	19	58	72.2	2.90	12, 13	80	16, 20, 24, 25	54	64.4	4.80
Gardiner.....	17	89	19	58	66.5	3.01	3, 4, 12	75	24, 25	53	63.3	5.50
Lisbon.....	17	97				3.30						5.67
Webster.....	7, 8	90	19	57	71.2		12	78	26	49	62.9	
Standish.....	17	98	19	58	74.3	2.57						
Cornish.....	17	93	23	57	71.6	3.40	2	82	21, 26	50	62.4	5.40
Cornishville.....	17	96	23	58	73.5	2.14	18	81	23	52	64.5	5.91
NEW HAMPSHIRE.												
Stratford.....	16	88	20	52	67.2	6.68	2	80	17, 21	43	59.2	5.00
Shelburne.....	16	96	2	48			12, 28	80	25	42	60.9	
North Barnstead...	16, 17	96	23	58	73.4	3.54	12	85	23, 24	52	65.0	3.51
Claremont.....	16	95	1	50	73.0	4.97	2	84	18, 24	50	64.0	5.97
Do.....	8, 16	92	1	54	71.5		21	90	12	46	62.4	
VERMONT.												
Lunenburg.....							1	88	16, 17, 20	45	60.9	5.00
Craftsbury.....	16	86	1, 20	54	67.0	5.62	2	78	17, 24	46	57.8	5.55
Randolph.....	16	98	23	53	71.2	2.81	2	82	17	44	67.2	2.80
Middlebury.....	16, 17	88	1, 18, 19, 20	58	70.8	5.39	2	78	16, 17	48	61.9	3.17
Brandon.....	16	96	18	56	72.1	2.07	3	86	17	46	64.9	3.38
Barnet.....	17	106	22	50	74.4	4.50	2	87	15, 17, 21, 28	54	70.0	3.50
Wilmington.....	13	94	1	52	72.0		2	85	26	47	61.2	
MASSACHUSETTS.												
Kingston.....	17	102	1	54	74.0	6.75	1, 18	82	25	52	66.0	3.65
Lawrence.....	16	95	1	58	72.4	4.67	1	78	21, 23	52	62.7	2.41

Table showing the range of the thermometer, &c., for July and August.

States and places.	JULY.						AUGUST.					
	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain.	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain.
MASSACHUSETTS—Continued.		°		°	°	In.		°		°	°	In.
Topsfield.....	17	97	19, 23	61	74.9	5.64	1	82	24	52	66.9	3.69
Newbury.....	17	99	1	58	73.6	.....	1	85	24	50	64.4	.....
North Billerica.....	16, 17	98	2, 22	60	74.2	.....	17, 18	80	21, 25	50	65.7	.....
New Bedford.....	16	94	1	59	72.1	1.76	1	78	23	53	65.8	3.45
Worcester.....	16, 17	94	1, 22	60	73.7	3.78	2	80	23, 24	52	65.0	3.32
Lunenburg.....	.....	.....	.....	.....	.....	.....	2	83	25	48	64.4	.....
Mendon.....	16	92	1, 21	58	73.1	4.75	1, 2	81	25	50	64.4	2.50
Amherst.....	16	94	18	52	72.9	4.02	2	82	24	48	63.5	3.96
Springfield.....	16, 17	103	1	48	74.1	3.00	1, 2, 18	85	17	44	64.7	2.83
Richmond.....	17	94	5	54	74.7	2.71	1, 4, 31	80	25	44	63.6	6.02
Williams College..	16, 17	91	1	53	69.3	3.70	2	82	25, 26	49	59.8	3.25
RHODE ISLAND.												
Newport.....	16	90	21, 22	58	71.1	1.81	2	83	24, 25	52	64.9	3.78
CONNECTICUT.												
Pomfret.....	16, 17	91	21	57	71.5	3.58	2	77	23	50	63.4	3.10
Columbia.....	17	100	22	60	76.2	.....	18	84	25	59	69.7	.....
Middletown.....	16, 17	100	1, 27	60	75.7	4.04	2	87	25	53	.....	4.24
Colebrook.....	15, 16	92	1, 2	56	72.6	.....	2	83	24, 25, 26	50	63.8	.....
Groton.....	16	92	1	55	77.0	2.39	2	81	23, 25	52	66.4	3.93
NEW YORK.												
Moriches.....	13, 16	102	1	65	78.6	5.47	8	89	25	56	71.4	6.63
South Hartford....	16, 17	97	19	62	76.7	2.46	2	84	16	50	66.6	4.34
Troy.....	16, 17	96	1, 31	62	75.6	3.85	.....	.....	.....	.....	.....	.....
Germantown.....	16	102	1	56	77.9	1.10	2	92	26	51	65.7	6.29
Fishkill Landing....	17	100	1, 23	60	72.5	3.40	2	85	25	51	71.4	4.75
Garrison's.....	17	98	1	54	74.0	3.83	1, 2	84	23, 25	53	66.0	5.29
Theo's Neck.....	17	99	1	60	75.9	.....	2	85	23	51	67.6	.....
Deaf & Dumb Ins'n	.....	.....	.....	.....	.....	.....	5	90	25	53	69.5	4.81
Columbia College..	17	99	21	62	79.0	1.67	2	85	24	57	70.5	3.84
Flatbush.....	13, 17	98	1	63	79.2	3.32	2	96	9, 16, 21	55	69.8	4.35
Newburgh.....	17	99	1	62	76.8	4.10	2	86	25, 26, 27	54	67.0	5.50
Gouverneur.....	16, 17	90	1	48	71.7	2.45	3	77	12	49	61.5	8.99
North Hammond....	13, 16	92	1	56	72.7	3.21	12	84	16	44	72.3	9.63
South Trenton.....	17	91	19	52	72.5	5.07	1	80	16	42	59.8	4.49
Oneida.....	16	90	29	54	70.7	5.78	12	84	16	50	64.7	7.05
Houseville.....	16	90	1	55	71.4	4.47	1	75	16	44	60.7	4.69
Depauville.....	17	88	1	57	71.2	3.01	12	80	16	48	61.7	5.30
Oswego.....	15, 16	88	1	53	70.9	2.33	12	80	23, 25	50	60.3	3.73
Palermo.....	16	94	1	56	72.0	2.80	12	83	23	45	69.1	4.10
Baldwinsville.....	15	87	1, 21	50	70.5	.....	12	73	16	48	60.5	.....
Skaneateles.....	15	93	1	52	70.2	.....	.....	.....	.....	.....	.....	.....
Nichols.....	13	100	1	54	73.2	.....	8, 18	84	17, 25	46	63.4	.....
Geneva.....	16	94	1	56	73.8	2.67	12	89	16	51	62.9	3.22
Rochester Univ'y..	16	95	1	60	74.3	1.36	3, 12, 18	76	24	48	62.6	4.91
Rochester.....	16	96	1	59	70.0	1.36	18	78	24	50	63.1	4.91
Little Genesee....	14, 15	94	1	50	71.1	1.88	13	86	17	41	57.5	.....
Buffalo.....	29	87	9	58	73.0	1.47	12	81	25	49	61.8	4.14

Table showing the range of the thermometer, &c., for July and August.

States and places.	JULY.						AUGUST.					
	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain.	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain.
NEW JERSEY.												
		°		°	°	<i>In.</i>		°		°	°	<i>In.</i>
Paterson	17	99	1	52	75.0	4.85	1, 2	86	25	52	66.8	6.36
Newark	17	99	1	54	76.1	1.84	1	86	25	49	67.3	5.35
New Brunswick ...	17	101	11	61	76.7	2.91	1	87	25	53	67.1	7.07
Trenton	17	99	2	64	81.7	4.26	2	86	24	57	72.7	4.80
Burlington	17	97	1, 2, 11	62	75.9	2.90	2	84	25	52	67.6	3.90
Moorestown	16	102	1	61	78.2	2.07	2, 8, 31	85	23	56	70.1	2.73
Mount Holly	17	98	2, 11	62	76.8	.....	2	84	25, 26, 27	54	71.9	.....
Seaville	18	99	1	60	79.4	2.60	.....	.....	.....	.....	.....	.....
Haddonfield	17	102	2	62	78.5	2.26	2	88	24	55	69.9	2.72
Greenwich	17	94	2	62	77.1	2.71	9	83	17	55	69.9	2.81
PENNSYLVANIA.												
Nyces	14	97	1	47	72.4	2.30	31	87	25	40	62.6	3.10
Fallsington	16, 17	98	2	63	77.0	2.80	2	84	26	55	69.0	4.50
Philadelphia	17	100	21	65	80.7	2.51	1, 2	87	24	58	72.5	2.57
Germantown	17	101	1, 21	63	79.1	.....	1, 31	86	17	55	70.0	.....
Moorland	16, 17	96	1, 10, 21	63	75.8	1.90	2	82	24, 25	53	67.3	5.25
Dyberry	16, 17	96	1, 2	46	69.3	.....	7	77	17, 21, 26	41	63.9	.....
Nazareth	16	98	4	60	76.6	.....	31	89	25	49	66.7	.....
North Whitehall ...	16, 17	95	1, 2, 11	54	73.3	.....	1	85	25, 26, 27	45	66.3	.....
Parkesville	17	101	1, 11	64	79.5	1.44	2	88	27	54	71.3	3.19
Stevensville	16	98	1	55	74.1	3.00	18	83	25	42	63.9	3.02
Reading .....	.....	.....	.....	.....	.....	.....	3	88	26	49	68.5	.....
Ephrata	16, 17	99	2	59	.....	1.70	31	86	25	50	68.7	3.73
Silver Spring	16	100	1	58	77.6	.....	31	86	25	52	68.0	.....
Mount Joy	7, 16	94	17	58	73.9	1.43	1	85	27	52	68.4	3.70
Harrisburg	16	96	.....	.....	81.6	3.78	1	87	26	55	71.2	2.34
Lewisburg	16, 17	98	23	61	76.5	2.63	2	84	23	50	65.9	4.31
Tioga	16	100	1	54	74.4	4.15	17	86	17, 24	44	64.1	4.25
Pennsville	15, 16	94	1	44	72.4	5.25	31	82	17, 26, 27	42	62.1	5.68
Connellsville	16	92	1	61	74.8	.....	31	82	25	48	64.9	.....
New Castle	16	94	1, 10	55	74.9	.....	31	76	17	44	64.3	.....
Canonsburg	16	95	1	58	74.9	3.71	18, 31	82	17	48	65.9	3.45
MARYLAND.												
Woodlawn	17	97	2	63	75.1	2.90	2	86	23	55	70.1	3.60
Catonsville	16, 17, 18	93	10	60	76.6	.....	2	82	25	51	70.1	3.60
Annapolis	17	97	1, 2	67	79.9	6.06	2	82	25	51	67.5	.....
Frederick	17	96	1, 2	62	76.5	3.00	2, 9	86	17, 24	54	72.7	3.51
VIRGINIA.												
Wytheville	16	96	1	54	73.7	.....	12	88	.....	.....	.....	.....
WEST VIRGINIA.												
Cabell Court-House	15	91	2	62	76.1	6.70	1	85	27	51	69.2	3.10
Romney	6, 8, 14, 15	98	1	54	73.9	.....	1	94	26	46	65.7	.....
NORTH CAROLINA.												
Statesville	17, 18	96	1	50	73.2	2.23	2	93	6	52	.....	2.00
Wilson	8	101	31	71	82.1	6.64	9	96	24, 25	60	76.0	3.36

Table showing the range of the thermometer, &c., for July and August.

States and places.	JULY.						AUGUST.					
	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain.	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain.
NORTH CAROLINA— Continued.		°		°	°	In.		°		°	°	In.
Oxford	19	89	3	69	79.3	-----	2, 4, 9	84	24	62	74.7	-----
Raleigh						-----	9	95	21, 24	59	75.0	1.80
GEORGIA.												
Atlanta	18, 19	92	1	50	75.8	1.27	8, 9	94	21, 24, 25, 26, 27	59	73.6	4.05
TENNES.												
Austin	23, 29	96	14, 15	71	81.3	4.34	1	96	30	68	80.6	7.51
Chapel Hill	28	96	1, 2	70	77.3	2.90						-----
MISSISSIPPI.												
Natchez	18	89	1	60	-----	-----	11	91	25	63	83.6	5.73
Grenada	27	91	1	55	-----	-----	8, 9, 12	92	25	58	-----	-----
ARKANSAS.												
Holena	26	98	2	65	81.6	3.20	8, 12	98	24	60	77.6	5.74
TENNESSEE.												
Clarksville	15	90	1	60	77.4	4.93	12, 13	93	25	51	72.2	0.68
Lookout Mountain	19	102	2	71	83.5	-----	8, 13	102	27	57	77.1	-----
KENTUCKY.												
Louisville	15	93	1	53	77.4	8.37	12	91	24, 26	43	70.4	3.46
Chilesburg	15	94	1	54	-----	9.96	12	90	24	42	-----	2.61
Taylorsville	15	95	1	66	80.4	6.23						-----
OHIO.												
New Lisbon	16	98	1	61	75.6	4.10	13	88	23, 26	48	65.3	3.44
East Fairfield	16	91	1	59	73.4	4.91	6, 31	74	24, 26	50	64.5	5.19
Steubenville	16	92	1	61	78.0	-----	31	79	26, 27	51	68.3	-----
Do	16	95	1	60	79.7	4.00		83	-----	48	68.8	4.55
Milnersville	15, 16	96	10	55	73.8	3.90						-----
East Cleveland	16	95	9	58	74.7	3.53	13	85	17	49	65.4	3.76
Cleveland						-----	3	80	17	49	69.2	-----
Wooster	14, 16	98	12	65	77.1	-----	13	85	24, 26	50	66.7	-----
Gallipolis						-----	3	91	27	47	68.2	2.31
Kelley's Island	16	93	9	64	77.6	2.59	12	85	24	55	69.0	2.20
Westerville	15	94	11	63	77.5	3.53	10, 18, 31	83	22, 25	51	66.5	2.54
Kingston	15	100	9	64	77.6	1.84	30	83	25	50	68.2	2.85
Toledo	16	95	11	61	74.6	4.00	13	81	24	51	65.2	2.44
Marion	16	92	9	64	74.5	5.97	31	82	23, 25, 26	49	64.2	3.31
Kenton	16	97	4	60	78.1	8.63	31	89	24	50	67.7	14.85
Urbana University	15, 16	91	1	63	75.5	4.74	18, 31	82	23, 25, 26	49	65.4	3.57
Hillsborough	16	91	1, 10	61	77.2	5.33	12	80	24	48	66.2	2.87
Ripley	16	100	31	68	85.7	-----						-----
Bethel	15	93	1, 2, 3, 10	62	74.1	3.14	18	85	23	42	62.9	3.00
Cincinnati	16	92	9	66	78.0	6.82	8, 31	83	24	53	69.5	2.75
Do	6	96	1	66	81.7	7.80						-----
Farmers' College	17	95	1	63	76.2	8.63	8	81	24	48	-----	3.63
College Hill	15	96	10, 11	66	78.7	8.50	12	85	24	54	70.0	2.44

Table showing the range of the thermometer, &c., for July and August.

States and places.	JULY.						AUGUST.					
	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain.	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain.
MICHIGAN.		°		°	°	<i>In.</i>		°		°	°	<i>In.</i>
Monroe	14	94	10	60	75.8	1.51	13	83	25	46	66.4	1.38
State Ag. College...	14, 15, 16	90	9, 10	60	73.7	4.19	1	78	25	47	62.6	3.44
Grand Rapids	16	93	9	62	76.0	.....	1, 10, 14	79	24, 25	49	63.9	.....
Litchfield	15	96	30	60	75.0	1.85	1, 13, 14	82	23	44	64.3	2.66
Northport	5	94	8	55	71.1	.....	14, 17	77	22, 24	48	62.0	.....
Holland	15	94	9	50	74.0	2.07	31	83	21	43	62.8	4.80
Ontonagon	11	90	9	50	67.5	.....	16	78	21, 29	48	59.6	.....
Homestead	14	92	8	56	73.5	.....	1	76	22	42	60.8	.....
Kalamazoo							18	94	22, 23, 24, 25	60	74.6	.....
Houghton							16	85	23	48	62.9	2.23
INDIANA.												
Aurora	15	101	10	62	81.5	4.96	11	92	24	50	71.7	2.65
Vevay	14, 15	100	1	67	84.7	6.95	12	96	26	50	75.9	1.47
Richmond	15, 16	91	1	62	75.0	5.64	10	81	23	47	65.0	4.26
Spiceland	15	96	1	63	76.6	9.10	10	85	23	48	66.2	4.60
Muncie							1	85	23, 25	49	67.2	5.10
Madison	15	94	1	66	82.5	6.93						
Columbia City	15	99	1	57	76.3	4.32	14	88	24	45	65.9	5.69
Indianapolis							31	88	23	49	69.3	.....
New Harmony	15	95	1	68	82.0	3.11	12	96	25	56	74.1	1.15
ILLINOIS.												
Marengo	3	99	8	58	75.1	5.19	12	86	22	45	64.5	8.59
Riley	15	96	9	57	72.9	4.23						
Golconda	15	102	1	57	83.3	3.32	12	100	24	40	77.7	1.68
Aurora	16	96	1, 9	60	76.2	3.21	12	85	24	48	68.2	6.20
Sandwich	14, 16	96	9	61	76.1	3.89	10	86	22	46	64.8	5.18
Ottawa	13	99	18	62	76.0	.....	30	93	24	50	65.1	1.62
Winnebago	13	95	9	59	75.6	5.03	12	83	29	46	65.1	7.52
Wyanet	12	96	9	59	76.3	4.19	12	89	22	52	68.8	5.44
Tiskilwa	12, 13, 14	99	19	58	78.1	.....	12	91	23	48	69.5	.....
Elmira	15	95	1, 9	60	77.1	4.57	12	86	25	48	68.0	3.88
Hennepin	13, 16, 17	95	9	53	.....	.....				
Peoria	15	95	9	62	78.2	5.17	12	90	23	50	70.1	3.97
Springfield	15	98	1	62	77.7	.....	12	96	24	51	71.2	.....
Loami	15	97	19	58	78.3	4.23	12	100	25	51	70.6	2.05
Dubois	16	98	3	54	75.4	3.65	12	94	24	38	66.1	0.05
Galesburg	13	93	1	60	75.6	4.28	3, 12	85	23	50	67.5	4.82
Augusta	13, 14, 15, 16, 17, 22, 23, 27	89	9	65	79.3	3.20	12	91	23	50	72.2	3.41
Manchester	16	96	19	60	79.9	4.02	12	101	23	52	72.6	2.89
Mt. Sterling	15	97	19	64	82.0	.....	12	94	22	50	73.0	.....
Andalusia	13, 18	99	1	65	82.9	.....	3, 4	88	22	50	71.1	.....
Rochelle	13, 15	96	9	58	73.0	.....	12	90	23, 24	50	66.5	.....

Table showing the range of the thermometer, &c., for July and August.

States and places.	JULY.						AUGUST.					
	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain.	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain.
WISCONSIN.												
		°		°	°	In.		°		°	°	In.
Manitowoc	13, 15	96	9	54	71.4	2.58	12	83	24	46	63.0	3.82
Milwaukee	13, 16	97	18	50	72.9	2.73	1	90	23, 25	46	63.9	3.95
Do.	13	96	8	55	73.2	3.54	12	85	24	49	63.1	4.78
Ripon	15	95	9, 19	61	74.1	.....	10, 14, 17	80	32	47	65.1	.....
Geneva	13, 14, 17	93	9	58	75.4	.....	12, 14	82	25	50	65.0	.....
Delavan	16	98	8, 9	56	74.7	3.25	.....	.....	.....	.....	.....	7.97
Waupacca	13	96	9, 10	60	77.5	.....	1, 10, 12, 14	80	24	48	65.6	.....
Weyauwega	14	94	9	58	75.7	0.70	14	81	23	48	63.1	3.60
Embarrass	13	104	9	54	74.6	3.24	2, 26	84	16	46	62.5	5.34
Rocky Run	12, 13, 14, 15	92	9	60	78.8	4.75	12	84	23	48	61.5	8.00
Baraboo	12, 13	96	9	54	76.0	.....	10	85	21	52	.....	13.44
Beloit	16	93	1, 10	60	75.4	5.53	.....	.....	.....	.....	.....	.....
Plymouth	12, 13	96	8, 9	54	74.0	4.60	12	84	22, 23, 24	48	63.4	4.90
MINNESOTA.												
Beaver Bay	12, 15	90	6, 8	50	67.3	3.94	14	84	21, 24	46	63.2	2.10
Afton	12, 13	94	3	59	75.0	.....	2, 9, 15, 16	82	23	42	64.7	.....
St. Paul	12	90	8	59	73.7	2.30	10	80	23	45	62.4	4.73
Minneapolis	13, 15	98	8	63	78.5	2.27	2	85	22	46	70.1	4.90
Sibley	12	98	8	58	74.6	2.29	17	88	23, 24	42	63.4	16.20
New Ulm	12, 15	97	2, 6, 17, 18	64	79.7	3.05	17	88	22, 23, 24	50	68.9	6.34
IOWA.												
Clinton	12, 13	96	1, 2, 10	62	78.7	6.20	.....	.....	.....	.....	.....	.....
Lyons	13	94	2, 10	63	77.8	6.06	1	88	22	49	68.2	9.45
Davenport	12, 13, 15, 17, 21	90	1, 2, 10, 19	64	75.5	3.33	3	84	23, 25	52	68.0	13.33
Dubuque	13	96	1	61	76.5	5.04	14	82	23	50	66.5	8.20
Muscatine	13	94	10	59	71.8	5.18	.....	.....	.....	.....	.....	.....
Fort Madison	23	96	1	62	80.2	6.76	12	95	23, 25	48	71.0	2.63
Monticello	13	94	1, 8, 19	62	73.3	5.63	17	84	23, 25	50	66.8	8.20
Guttenberg	12, 16, 29	94	19	54	73.6	.....	9, 10, 12, 13, 14	82	22	42	64.4	.....
Ceres	12	96	1, 2, 4	60	76.8	.....	9	86	23	50	67.3	.....
Manchester	12, 13, 16	90	2	58	72.8	6.51	14	82	25	38	61.6	4.79
Mount Vernon	17	93	9	58	76.1	.....	3	83	23, 24	49	66.3	.....
Iowa City	12, 15, 21, 28	94	3	58	77.1	4.55	14	88	25	43	68.8	6.85
Independence	13	100	2, 8	57	77.8	7.30	15	87	24	44	66.5	13.60
Do	16	93	2	60	72.1	.....	7	82	24	48	65.7	.....
Waterloo	12	91	2, 8	58	86.7	.....	12	86	24, 25	40	65.8	.....
Osage	6, 12	96	2, 17, 18, 19	61	78.1	.....	.....	.....	.....	.....	.....	.....
Iowa Falls	12, 13, 14, 22	92	2	59	74.3	.....	11	82	24, 25	42	68.2	6.91
Des Moines	22	94	2	48	72.6	.....	6	94	23, 24	49	69.7	2.13
Fontenelle	22	94	2	60	77.2	2.90	3	94	23	49	70.2	2.75
Harris Grove	22	99	9	53	76.5	3.00	6	94	24	46	70.1	1.30

Table showing the range of the thermometer, &c., for July and August.

States and places.	JULY.						AUGUST.					
	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain.	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain.
MISSOURI.												
St. Louis Univer'y.	26, 27	95	9	65	81.8	3.65	12	97	23	58	75.9	3.71
St. Louis	22, 26, 27	97	9	65	81.7	3.68						
Allenton	26, 27, 29, 30	95	2	61	75.7	4.93	11	97	24, 25	42	68.9	3.53
Athens	23	103	11	67	82.7	3.69						
Canton	26	101	18	64	80.9	5.67	7, 11, 12	100	24	38	72.1	2.13
Harrisonville	18	96	2	62	74.8	7.88	3, 6, 7, 12, 31	92	24	52	73.5	4.00
Easton	23, 25, 27, 28	92	8	62	79.7	4.69	7	93	24	58	75.0	0.80
Union	27	98	1	68	80.6	5.64	12	102	25	50	73.5	1.46
KANSAS.												
Leavenworth	21	98	8	61	77.2	9.31	12	100	24	41	72.2	1.15
Olathe	12	100	8	63	78.6	9.80	12	97	23	51	74.0	.....
Agric. College	24, 26, 27	96	8	64		3.27						
Council Grove	27	100	8	60	75.8	3.15	7	102	24	48	75.3	2.05
NEBRASKA.												
Elkhorn	22	102	2	60	78.4	.....	7	101	24	50	72.2	.....
Bellevue	21	99	2	60	79.0	1.52	3	95	23	51	73.2	1.46
Glendale	22	97	2	60	77.8	2.80	6	101	22	45	72.3	3.22
UTAH TERRITORY.												
Great S. Lake City	9, 20	90	7	64		8.73						
Wanship	8	94	31	47	71.2							
CALIFORNIA.												
San Francisco	10, 12, 26	65	31	51	56.3	0.00	13	71	9, 10	51	56.5	0.00
Sacramento	1	98	5, 8, 11	64	75.9	0.02	15, 16	98	29	60	76.0	0.00
Monterey	18	78	9	52	59.3	0.00	14	75	1, 26	54	61.0	0.00
											193.5	
											64.5	
MONTANA TERR.												
Helena City	20, 23, 28	96	31	66	78.9	0.07	21	96	30, 31	64	77.9	0.20
OREGON.												
Corvallis	3	98	11, 25	50	.....	.....	14	92	4	46	.....	.....

AVERAGES OF JULY AND AUGUST.

Table showing the average temperature and fall of rain (in inches and tenths) for the months of July and August in each of the years named.

States, &c.	JULY.						AUGUST.					
	Averages, 1864.		Averages, 1865.		Averages, 1866.		Averages, 1864.		Averages, 1865.		Averages, 1866.	
	Mean temp.		Mean temp.		Mean temp.		Mean temp.		Mean temp.		Mean temp.	
	Deg.	In.	Deg.	In.	Deg.	In.	Deg.	In.	Deg.	In.	Deg.	In.
Maine	68.3	1.02	66.9	4.45	71.1	3.42	66.8	5.12	66.8	2.51	62.5	4.95
New Hampshire	69.7	1.80	66.4	3.96	71.3	5.06	68.9	5.85	66.3	1.89	62.3	4.83
Vermont	69.0	2.22	64.4	4.79	71.3	4.08	67.2	4.85	67.1	2.08	63.4	3.90
Massachusetts	70.0	1.43	69.5	3.50	73.3	4.08	69.6	4.72	68.6	1.79	64.4	3.46
Connecticut	72.1	1.44	71.3	5.19	74.6	3.31	72.0	3.19	69.9	1.41	65.8	3.76
New York	73.5	2.28	69.5	3.70	73.7	3.02	72.4	6.15	68.6	1.44	65.2	5.10
New Jersey	73.0	2.83	73.9	4.30	72.5	2.93	75.0	2.61	71.3	3.60	69.3	4.47
Pennsylvania	75.2	3.52	72.1	4.77	75.8	2.82	74.0	4.80	69.6	3.24	66.9	3.78
Delaware	76.8	4.00	73.7	5.70	-----	-----	79.6	3.30	73.1	3.60	-----	-----
Maryland	76.1	1.24	75.7	6.47	77.0	3.99	78.3	3.61	73.9	3.04	69.6	3.20
West Virginia	-----	-----	75.4	5.70	75.0	6.70	-----	-----	70.1	2.10	67.5	3.10
Mississippi	-----	-----	82.7	2.33	-----	-----	-----	-----	80.6	1.91	83.6	5.73
Tennessee	-----	-----	75.7	5.14	80.5	4.93	-----	-----	74.3	4.92	74.7	0.68
Kentucky	79.6	2.13	75.4	5.99	78.9	8.19	75.9	5.63	73.6	3.35	70.4	3.04
Ohio	76.1	2.34	72.1	5.50	77.1	5.11	73.6	4.94	70.6	2.98	66.9	3.87
Michigan	73.7	1.37	66.2	4.43	73.3	2.41	71.1	1.33	66.8	3.99	63.0	2.90
Indiana	77.8	1.31	72.5	6.75	77.8	5.86	74.4	4.45	71.5	4.90	69.4	3.56
Illinois	76.7	4.89	69.6	5.93	77.5	4.16	73.3	1.72	71.6	4.88	69.1	4.09
Wisconsin	72.7	5.07	65.9	5.31	74.9	3.45	70.6	2.01	67.4	4.70	63.6	6.20
Minnesota	73.3	4.01	68.5	4.13	74.8	2.77	70.7	2.09	68.5	6.17	65.5	6.85
Iowa	75.5	4.59	68.6	5.74	71.3	5.21	72.1	3.60	70.9	4.40	67.2	7.10
Missouri	80.2	3.71	74.2	8.55	79.7	4.98	74.1	3.11	75.7	3.64	73.2	2.61
Kansas	83.6	3.55	76.0	7.66	77.2	6.38	80.2	2.14	74.4	9.07	73.8	1.61
Nebraska Territory	77.5	0.74	73.1	5.13	78.4	2.16	74.6	1.48	73.5	1.50	72.6	2.31
California	-----	-----	67.8	0.05	63.5	0.01	-----	-----	64.9	0.05	64.5	0.00

NOTES OF THE WEATHER

FROM THE SMITHSONIAN INSTITUTION.

JULY, 1866.

Cornish, Maine.—July 25.—Several small thunder-showers north, in the afternoon.

Steuben, Maine.—July 25.—Thunder to the north at 2 p. m.

Lee, Maine.—July 25.—Thunder at 1 p. m. northeast, and at 5 p. m. east rain from 6.30 p. m. to 10 p. m.

Williamsburg, Maine.—July 25.—Hard thunder-shower from 1.30 to 2 p. m., from 3 to 5 p. m., and in the night.

Gardiner, Maine.—The mean temperature of the month is three-tenths of a degree above the average of thirty years; rain three-tenths of an inch less than the average.

North Barnstead, New Hampshire.—July 25.—Thunder from 11 a. m. to 1 p. m.

Claremont, New Hampshire.—July 25.—Thunder and lightning at 9 a. m., and soon afterwards a heavy shower, lasting three-quarters of an hour; several trees struck by lightning; it continued showery during the day.

Stratford, New Hampshire.—The month of July has been warm and wet, with more lightning and thunder than we generally have in a whole summer.

Claremont, New Hampshire.—From about the 10th to the 16th the dew was almost imperceptible. Thunder-showers were unusually frequent during the month.

Barnet, Vermont.—The rain in July has been from showers, and none from a rain-storm. The wind was in the northwest the most of the time, and there has been more thunder and lightning than usual.

Randolph, Vermont.—July 25.—Thunder-showers commenced at 9 a. m.; distant thunder at intervals all day. There has been an unusual amount of thunder during the month.

New Bedford, Massachusetts.—July 25.—Shower from 7.30 to 9 a. m. A thunder squall and heavy rain at 4 p. m.; showers of hail, damaging crops a few miles north and east of this place.

Mendon, Massachusetts.—July 25.—Thunder-shower at 5 p. m.

Williamstown, Massachusetts.—July 25.—Tornado a few miles south; rain, wind and hail.

Kingston, Massachusetts.—July 25.—Thunder-shower at 1 p. m., moving from west; another at 2½ p. m., very heavy. Two inches of rain fell to-day. A few hailstones as large as peas fell at 3 p. m.

Middletown, Connecticut.—July 25.—Thunder-shower beginning at 12 m., with some hail. A few rods only east of this observatory much more hail fell, and at a distance of half a mile the quantity was very great, and much damage was done to tender vegetables, especially tobacco.

Pomfret, Connecticut.—This July has been the warmest in fourteen years, except 1854, which was only two-thirds of a degree warmer. Nearly all the rain of the month was accompanied with thunder, and considerable damage was done by lightning.

Moriches, New York.—July 25.—Thunder-showers through the afternoon; at 8½ p. m. it seemed to settle down to a steady rain. At "Baiting Hollow," about twelve miles northeast of here, near the Sound, a remarkable hail-storm occurred among some of the numerous showers of the 25th or 28th. The area

was about $2\frac{1}{2}$ miles long by a mile in width, the hail being eight to nine inches deep at the maximum. Sheep were killed, grain crops destroyed, glass broken, &c. The observer has been here over eleven years, and has known no hail-storm properly so called. This July was remarkable for the great heat of the 11th, 17th, and for the numerous thunder-showers of the latter part.

Palermo, New York.—July 18.—The last three days were the three hottest days known in this region in one season for many years. This July has been the warmest in twelve years except 1854.

Depauville, New York.—July 25.—At 6.30 a. m. a thunder-storm, with zig-zag lightning, moved from northwest to southeast. Along the centre of this storm there was a fall of hail enough to whiten the ground; some of the stones were as large as walnuts, with a few pieces of ice over an inch thick. At 8.16 a. m. another hail-storm passed six miles south from here, much more severe.

North Hammond, New York.—July 25.—Rain from 7.50 to 9.45 a. m. Thunder at intervals through the day.

Skaneateles, New York.—Seldom has such a July been known; all crops, except fruit, are prosperous.

Rochester, New York.—The first half of this July was the hottest in thirty years, and the month has only one hotter, viz, in 1855. The temperature at 2 p. m. on the 15th was 93° ; on the 16th, 95° , and on the 17th 93° . Not more than three successive days, with the maximum temperature of each above 90° , have occurred in thirty years past.

Geneva, New York.—The average temperature of July was more than three degrees and a half above the general average for the last fifteen years. The 16th was the hottest day recorded during that period, the time for which these records have been kept.

Newark, New Jersey.—The mean temperature of the month was higher than that of any July during the last twenty-three years, the period for which these records have been kept; but its maximum temperature was exceeded in 1843 and 1849. Only one July, that of 1843, exceeded it in the number of days on which the mercury rose above 90° , in which month there were nine, while this year there were only eight. In 1845 there were seven days in succession on which the mercury rose above 90° , and in both 1854 and 1856 there were five such days, but this year there were only four. There was no rain-storm during the month, and only one entirely cloudy day.

Horsham, Pennsylvania.—July 25.—Heavy thunder-storm, with considerable hail, about 5 p. m.; some of the hailstones measured over four inches in circumference.

Harrisburg, Pennsylvania.—July 25.—Heavy storm of wind with hail at 7 p. m.

Philadelphia, Pennsylvania.—July 17.—The warmest day since the observer has been keeping a record, now sixteen years. The mean temperature was 92.33° . The nearest approach to this was the 21st of July, 1854, of which the mean temperature was 91.30° . The highest temperature on this day was 101° at 3 p. m.; on the 21st of July, 1854, it was $100\frac{1}{2}^{\circ}$. 25th, a very slight rain from 7 to $7\frac{1}{2}$ p. m. The mean temperature of the month was $2\frac{3}{4}^{\circ}$ above the average for July.

Pennsville, Pennsylvania.—July has been mostly a pleasant month, favorable to harvesting, and also for the growing crops.

Lewisburg, Pennsylvania.—July 17.—The mean temperature of July is the highest since 1856.

Byberry, Pennsylvania.—July 25.—Heavy shower in the evening from west and northwest, with some hail, thunder and lightning.

Nazareth, Pennsylvania.—July 25.—Thunder-gust northwest at 5 p. m.

Ephrata, Pennsylvania.—July 25.—A thunder-storm passed over this place at 5.25 p. m. A hail-storm set in at 5.35. Hail covered the ground in most

places, and were from 1 to $1\frac{1}{2}$ inches in diameter; also pellets of ice fell from two to three inches in length and an inch in thickness. The hail-storm continued about fifteen minutes.

Bethlehem, Pennsylvania.—July 25.—At a quarter before 7 p. m., Dr. C. M. Wetherill witnessed the formation of a tornado, apparently about a mile to the southeast of Bethlehem. It did not produce any effect at or near Bethlehem; its action was confined to the heavens, and it appeared to pass off to the southward.—*Correspondence.*

Woodlawn, Maryland.—July 25.—After 6 p. m. a very dark cloud passed from northwest to northeast, and then returned directly overhead. About 6.40 occasional balls of hail began to fall, in size and form similar to gum drops, but ceased, and rain commenced, at first moderately, but soon increasing to a heavy rain, when the hail again fell, first in round balls like rifle-bullets, then increasing in quantity and in size to that of hulled walnuts, until it nearly covered the ground, many of them over an inch in diameter, and one picked up half an hour after the storm measured $1\frac{3}{8}$ inches across.

Harre de Grace, Maryland.—July 25.—A few minutes after 7 p. m., ten spans of the great bridge building here by the Philadelphia, Wilmington, and Baltimore railroad company were lifted from the stone piers by a tornado and thrown into the river.—*Newspapers.*

Frederick, Maryland.—July 25.—At $8\frac{1}{2}$ p. m. heavy cloud southwest; constant and very vivid yellow lightning. At fifteen minutes after 9 it rained in torrents. 31st, this is said to be the hottest summer known here for forty years.

Washington, District of Columbia.—July 25.—Slight shower from 5.10 to 5.30 p. m. At 8 p. m., and later, a most beautiful and remarkable display of forked, zigzag, and diffuse lightning at the north and northeast. Very heavy rain after 9 p. m., with large hail.

Wytheville, Virginia.—The middle of July was remarkable for a continued extraordinary hot spell.

Clarksville, Kentucky.—July 25.—About 1 p. m. an extensive storm cloud was observed to the north passing eastward; at 2 p. m., wind in fresh variable squalls from northeast.

Kelley's Island, Ohio.—The temperature of the month has been 5.17° warmer than the mean of July for seven years preceding the present, and 4.53° warmer than the mean of eight years including the present; also 1.40° above the warmest July in eight years, which was in 1864.

Cleveland, Ohio.—July 16.—To-day is the hottest that it has been here in eleven years.

College Hill, Ohio.—The month of July has been unusually wet; on the 28th the rain was the most severe known here for several years.

Bethel, Ohio.—July 15.—A remarkably hot day, the hottest for some years.

Northport, Michigan.—July 15.—The day has been oppressively warm; in the sun almost unendurable. 31st, red squirrels continue as numerous and tame as last month; they have not been plenty formerly. Grasshoppers have been very abundant and destructive this season; they have now nearly all disappeared. The observer sowed about three acres of buckwheat on the east side of a piece of meadow. The grasshoppers began to take the buckwheat on the west side about forty rods long. They took everything clean about two-thirds of the width of the piece, then stopped, leaving a straight line except some slight indentations. Pigeons have also been extremely numerous; they are now disappearing.

Litchfield, Michigan.—July 16.—Much damage was done this afternoon to property at Jonesville, seven miles southeast of here, by a heavy wind and rain; at this place there was scarcely a sprinkle and no wind.

Richmond, Indiana.—The mean temperature of July is the highest since 1856, and 3.77° above the average of the last fourteen years, while the maxi-

mun was only 91° . The depth of rain was 1.44 inch above the average of the same period. The month has rarely been excelled in this country for a fine growing season.

Spiceland, Indiana.—July 28.—Very heavy rain about the middle of last night; nearly four inches fell; it seems to have been confined to a small portion of country.

Dubois, Illinois.—July 31.—Excessive drought; only a tenth of an inch of rain has fallen since the 9th of the month.

Aurora, Illinois.—The drought and the heat have been unfavorable to fruit.

Riley, Illinois.—During the month there has been an unusual amount of extremely hot weather; the mean temperature has been 1.7° above the mean of twelve years. Only 1856 and 1858 were as high. The amount of rain was 1.18 inch below the mean of the same time, yet it has been a growing month, surpassing any in the recollection of any person giving an opinion.

Weyauwega, Wisconsin.—July 31.—During the month there has been considerable very warm weather; many feared that the drought which terminated on the 17th would destroy crops of all kinds, but the rain which fell at that time saved most of them, though badly injured.

Embarrass, Wisconsin.—July 31.—The thermometer has been higher this month than the observer ever saw it before. Crops are coming forward fast and never looked better; have had plenty of rain in seasonable showers.

Plymouth, Wisconsin.—July 21.—A heavy thunder-storm from $2\frac{1}{2}$ to $4\frac{3}{4}$ p. m.; hail fell for over a quarter of an hour, and destroyed everything on the fields and in the gardens, and did great damage to the fruit trees. The hail-storm extended over six miles in length and from one and a half to two miles wide in the direction from northwest to southeast. The stones, which were all in the shape of stars with long sharp points, varied in size from half an inch to about three inches in diameter, more flat than round, and were found twenty-four hours afterwards in sheltered places. Many birds were found killed. 31st.—The mean temperature of the month was four degrees higher than the average of five years.

Manitowoc, Wisconsin.—This July has been the warmest month in fifteen years.

Saint Paul, Minnesota.—The mean temperature of the month was higher than that of any July for the last eight years.

Ceres, Iowa.—July 22.—The heaviest rain fell to-day at 6 a. m. that has been known here since fifteen years ago.

Fort Madison, Iowa.—July 23.—Three inches and two-tenths of rain fell to-day, which is more than on any other one day since the observer began keeping a record in 1848.

Des Moines, Iowa.—July has been remarkably warm and dry, with scarcely any thunder or lightning.

Clinton, Iowa.—July has been very warm and rather wet.

Guttenberg, Iowa.—July 23.—Violent rain, with loud thunder, from 8 p. m. yesterday to 4 a. m. to-day. It was the heaviest rain ever seen by the old settlers here. Fences were swept away which stood for fifteen years where the observer never saw water before. The bridge over a creek on his farm, twelve feet above the level of the creek, was swept away, and the water rose four feet over the bridge.

Leavenworth, Kansas.—The mean temperature of the month was 3.6° below the average of five years; the amount of rain was five inches more than the average of the same period.

Elkhorn City, Nebraska.—July has been the hottest observed, except in 1860, (the season of great drought,) and has also been very dry, although there have been some showers, varying in localities.

Bellerue, Nebraska.—This month has been the warmest for many years, and the Missouri has been unusually high.

Colorado City, Colorado Territory.—July 31.—Ground very wet, sufficiently so to last small grain till harvested.

Helena City, Montana Territory.—July 13.—At 4 p. m. a thunder-storm came up in the south west, and for a few minutes hail stones a quarter of an inch in diameter fell most profusely.

Great Salt Lake City, Utah Territory.—July 31.—The prospect for an abundance of everything in the line of agriculture was never more apparent. The timely rains, which are something new to this region, give new life to the desert.

AUGUST, 1866.

Gardiner, Maine.—This month has been remarkable for its low temperature, being 4.01° less than the average of thirty years, and half a degree colder than any on record. The coldest August previously was that of 1837, the mean temperature of which was 63.43° . The extreme heat (76°) is much less than that of any other year. The amount of rain was 1.6 inch more than the average of the month.

Cornish, Maine.—The mean temperature of the month was three-tenths of a degree higher than the average for the last thirty-five years.

West Waterville, Maine.—More rain has fallen this month than in any other August for six years, and the mean temperature has been lower.

Stratford, New Hampshire.—August has been cold, cloudy, and wet. On the morning of the 17th there was a little frost in low places, but no damage was done.

Claremont, New Hampshire.—Crops are two weeks later than last year at this time.

Craftsbury, Vermont.—This month has been the coldest August since observations have been taken at this place. The mean temperature for the last twelve years was 62.82° , and in no year during that time lower than 61° .

Richmond, Massachusetts.—August has been an unusually cool month, with much lowering weather. Slight frosts are said to have been seen in low lands on the mornings of the 24th and 25th.

Pomfret, Connecticut.—There were no hot days in August; the month seemed to be cold, yet the average temperature was equal to the mean of years.

South Hartford, New York.—The mean temperature of August was about 3-4 degrees below that of previous years. On the morning of the 17th a very slight frost was noticed in a low swampy exposure.

Depauville, New York.—This has been an unusually wet, cloudy, and cool August. There was hardly a day when it did not rain or a storm was not passing in sight. Two or three mornings the thermometer fell to 46° at sunrise, but there has been no frost.

North Hammond, New York.—August has been uncommonly wet, rain having fallen on nineteen days out of thirty-one. The ground is too wet to move about on; a great amount of harvesting remains undone.

Nichols, New York.—This has been decidedly the coldest and wettest August in a number of years. On a number of mornings the mercury has been below 44° at five o'clock. On the 17th at 5.15 a. m. it was as low as 37° and the tops of all fences and boards were perfectly white with frost, but no damage was done. There was a frost earlier in the month that showed on a few garden vines.

Little Genesee, New York.—August 31.—There has not been a good day during the month to ripen corn, the most forward is scarcely fit to boil for green. There has been no frost just here, but in some towns in this (Allegany county)

region, including a part of Potter county, Pennsylvania, corn, buckwheat, and potatoes are badly killed.

Geneva, New York.—The mean temperature of August was nearly six degrees below the general average for the month. There has been no frost. The rains have been unusually frequent, but the total amount of rainfall was less than the average for the last fifteen years.

Rochester, New York.—The coldest August before this since Dr. Dewey's records began, was in 1844, when the mean temperature was 65.53° or nearly three degrees warmer than the month just closed.

Greenwich, New Jersey.—August has been unusually cool, but no frost has been observed or heard of in this neighborhood.

Newark, New Jersey.—The average temperature of August for the last twenty-three years was 70.99, that of the last month was 3.69° lower. The amount of rain was nearly three-fourths of an inch more than the average quantity for the month.

Councils ville, Pennsylvania.—August 16.—Temperature at sunrise 41°; frost within one mile of this place.

Stevensville, Pennsylvania.—August 17.—Thermometer 37° at 5 a. m. Hard frost on the hills around here; a heavy fog kept it off from the valley.

Dyberry, Pennsylvania.—August 18.—Very slight frost this morning. 25th, a trifle of ice in the morning.

Newcastle, Pennsylvania.—August 17.—Heavy white frost this morning.

Lewisburg, Pennsylvania.—The mean temperature of the month is lower than that of any August since the record begun, which was in 1856.

Woodlawn, Maryland.—August 17.—A light hoar-frost.

Grenada, Mississippi.—At sunrise on the 25th the temperature was 58°, which is lower than it has been in August for ten years, which is as far back as the record has been kept.

Chilesburg, Kentucky.—August 24.—There was frost in some localities, but none here, owing to a fog that arose from the spring and spring branch extending so as to prevent it.

Steubenville, Ohio.—This has been the coldest August since 1836.

Urbana, Ohio.—The mean temperature of the month was 6.10° lower than the average of August for the past fourteen years. On the 24th there was light frost in the neighborhood, and on the 26th a very light frost on the observer's place, but no damaged tender plants.

Bethel, Ohio.—August 8.—A violent thunder-storm came from the northwest at 9 p. m. The wind blew down trees and some houses; there was more lightning than for years.

Litchfield, Michigan.—August 23.—A heavy frost at 4.30 a. m.; no injury to crops on upland: buckwheat injured in the valleys on clay and muck soils. Springs are lower, the first settlers say, than they have been known for twenty-five years.

Muncie, Indiana.—There were light frosts on the mornings of the 26th and 27th, but not enough to do any damage to vegetation.

Sandwich, Illinois.—August 25 and 26.—Light frosts. No damage done.

Rochelle, Illinois.—August 3.—Severe hail storm at 8.20 p. m. Some of the stones measured an inch and a half through the largest diameter, and a little over half an inch through the shortest diameter. In shape they were oblate spheroids. A number were cut open to count the rings of different density. In the largest there were four circles of the more compact ice, counting the central dot and the outer surface.

[A newspaper account of this hail storm in Carroll, Ogle, DeKalb, and Kane counties represents it as very destructive to animals, standing crops, and buildings.]

Soami, Illinois.—August 23.—A light frost reported this morning six or eight miles east of this place, but none known nearer.

Wyaconda Prairie, Missouri.—August 24.—Frost. No damage done.

Baraboo, Wisconsin.—August 22 and 23.—A slight white frost, but it did no injury worth mentioning. In low places corn and vines were slightly cut.

Plymouth, Wisconsin.—August was unusually damp, cool, and cloudy. The mean temperature was three degrees below the average of the last six years.

St. Paul, Minnesota.—August 23 and 24.—Slight frosts, with harm to vegetation.

Manchester, Iowa.—August 25.—Thermometer 35° at sunrise; a little frost.



MONTHLY REPORT

OF

THE AGRICULTURAL DEPARTMENT.

OCTOBER, 1866.

WASHINGTON:
GOVERNMENT PRINTING OFFICE.
1866.

MONTHLY REPORT.

DEPARTMENT OF AGRICULTURE,

Washington, D. C., October, 1866.

The returns of local correspondents, up to the first day of October, verify, in all essential particulars, the statements respecting the crops contained in previous monthly exhibits.

The condition of corn has suffered some deterioration from early frosts and excessive rains, but the quantity of the crop is larger than the largest ever previously chronicled in the country. A final summary of its amount and quality will be given in the next report.

In the production of wheat, next to corn our most important cereal, our agriculture has been unfortunate for the past three seasons. The crops of 1862 and 1863 in the North were good, and exhibited a gratifying increase as compared with the crop of 1859. The year 1864 witnessed a slightly diminished product, followed by a further diminution in 1865, in quantity as well as in quality. Lest misapprehensions of the extent of this decreased supply should prevail, the returns and estimates of these years should be viewed in a group :

Estimate for twenty-two States.

	Bushels.
In 1859.....	132,934,782
In 1863.....	179,404,036
In 1864.....	160,695,823
In 1865.....	148,522,829

The estimate for the present year, now nearly complete, will not vary much from 143,000,000 bushels, showing a small percentage of decrease, which is fully compensated by the comparatively superior quality of the grain, as was predicted in a preceding number. This is ten millions of bushels more than the crop of 1859, and is within five millions of a product in proportion to the increased population.

The diminution in the South is more apparent. The estimates point to less than seventeen millions of bushels in the eleven States hitherto unreported—a fraction less than five-tenths of the crop of 1859.

It is worthy of remark, in connexion with the diminution of the three past seasons, that the wheat crop of England has been likewise deficient since 1864.

The California wheat harvest, of which little mention has been publicly made in connexion with the present crop, is excessive. In 1860 the product of this young State was nearly six millions of bushels. Now, it is seriously claimed by leading California agriculturists that the surplus for export will be nearly double that quantity.

It is evident that the entire wheat crop will exceed by several millions that of 1859, when the yield was reported at 173,104,924 bushels. Then there were five and a half bushels to each individual; in 1866 the estimates point to five bushels to each inhabitant. There is no ground, then, for apprehensions of scarcity, and little excuse, in the amount of the crop, for starvation prices.

The yield of oats is extraordinary, and the quality excellent. The indications point to an increase from 171,497,072 bushels in 1859 to 271,912,695 in 1866. It is the only crop in the South that maintains an equality with its last census exhibit.

Hay is less in quantity than in the previous year by from one to two tenths, but is better in quality.

An analysis of the southern returns up to October 1 do not warrant a reduction of the former cotton estimate much below one and three-fourths million of bales, though it is too early for final estimates. Increasing severity of damages from insects is reported.

The minor crops are duly considered in the body of the report.

ISAAC NEWTON,

Commissioner.

INSECTS INJURIOUS TO COTTON PLANTS.—NO. 4.

SOUTHERN GRASS-CATERPILLAR OR ARMY WORM.

Laphrygma machra.

There is another caterpillar also found in the cotton fields which has frequently been mistaken for the real cotton caterpillar, (*Anomis xyliua*.) and which is commonly known by the trivial name of the grass-worm or caterpillar, owing to the circumstance of its feeding upon grass and weeds, although when pressed by hunger it will sometimes eat the leaf of the cotton plant. By some planters this caterpillar is known as the army worm, but must not be confounded with the more northern army worm, (*Leucania extraneæ*.) which sometimes appears in such immense numbers in the west, and also feeds upon grass, corn, and wheat.

These caterpillars were very numerous in the vicinity of Columbus, in Georgia, about the end of September and the beginning of October, 1854. They devoured grass, young grain, and almost every green thing which came in their path. Instances have been known in which, urged as they were by necessity and starvation, they actually devoured stacks of fodder that were stored away for winter consumption. Deep ditches cut in the earth to stop them were immediately filled up by the multitudes which fell in and perished, while eager millions still rushed over the trembling and half living bridge formed by the bodies of their late companions, bent on their mission of destruction and devastation.

The caterpillars do no essential injury to the cotton, especially when weeds abound, as they content themselves with the grass growing between the rows, and unless very numerous they cannot be classed among those doing much harm to the general crop, and are mentioned here principally as having been so frequently mistaken for the real cotton-caterpillar. When pressed by necessity, however, as has already been stated, they will feed upon cotton leaves. I raised about thirty of them upon this food alone, merely as an experiment, and they grew and perfected their transformation, although appearing to prefer a grass diet if it could be obtained. When about to change they formed cocoons of silk under stones, or in the ground near the surface, interwoven with particles of earth, and came out perfect moths from the 24th to the 30th of October; and as these specimens were kept in a room without artificial heat I conjectured that those in the open fields would appear about the same time.

At a plantation in the vicinity of Columbus, where the caterpillars were very numerous, and had already devoured all the grass on one side of a field, which was divided into two equal parts by a broad and sandy carriage road passing through the centre of it, the grass on the other side having been untouched, it was interesting to observe the operations of numerous colonies of ants that had formed their holes or nests in the road, and were lying in wait for any unfortunate grass-worm, the natural desire of which for a fresh supply of food should tempt it to cross this dangerous path. First, one ant more vigilant than the rest would rush to the attack, then another, and another, until the poor caterpillar, entirely covered by its pigmy foes, and completely exhausted in strength by its unavailing efforts to escape, was finally obliged to succumb to superior numbers and die as quietly as possible, when the carcass was immediately carried off by

the captors to their nests, or, when too heavy to be dragged away at once, they fed upon it as it lay in the road. This warfare was carried on every day as long as the grass-worms prevailed, and no doubt their numbers were diminished in this way to a considerable extent.

The grass-caterpillars, when in confinement, very often kill and devour each other; and, when one is maimed in the least, it stands a very poor chance for its life. Several intelligent planters state that, when the grass and weeds are entirely devoured, and no other vegetable food is to be found, they will attack each other and feed upon the still living and writhing bodies of their former companions. One grass-caterpillar, which was kept in confinement, although furnished with an abundance of green food, actually appeared to prefer to feed upon other caterpillars, no matter of what kind, so long as their bodies were not defended by long, bristling hairs, or spines.

The grass-caterpillar is from an inch and a half to an inch and three-quarters in length. A longitudinal light-brownish line runs down the centre, and two yellow lines along each side of the back, which is somewhat veined with black lines, and is of a dark color, marked with black spots, from each of which grows a short bristle, or hair. Below these yellow stripes the sides are of a dark color, almost black; beneath this extends a light-colored line, in which the spiracles are placed; the lower part of the body is of a dirty green, spotted with black; the head is black, marked with two lines of a yellowish color, forming an angle on the top; the body is somewhat hairy. This caterpillar has six pectoral, eight ventral, and two anal feet.

The above description applies only to the brightest colored specimens of the grass-worm, as they vary much in color and markings, some of them being almost black, and showing their stripes indistinctly. The chrysalis is brownish-black, and is formed in a cocoon of silk under the ground, the sand and small pebbles being so interwoven with it as to cause the whole cocoon to appear like an ovoid ball of earth; but it is never found webbed up in the leaves, as is the case with the true cotton-caterpillar, already described. The moth measures about an inch and one-fifth across the wings when they are expanded; the upper wings are gray, slightly clouded with a darker color, and a lighter spot or ring is faintly seen in the centre; the under wings are of a yellowish white, shaded with gray along the margin near the upper wings.

Specimens of these caterpillars were brought to me when at Savannah, in Georgia, and they were suspected to have injured the rice in that vicinity in the month of June. Colonel Whitner, of Tallahassee, in his interesting communication to this office, speaks of the grass-caterpillar as having stripped fields of grass, in 1845, and also as attacking the corn, sugar-cane and upland rice. It has likewise been said that an insect similar, if not identical with the grass-caterpillar, destroys the leaves of the sweet potato. Thus it appears to be almost omnivorous, and not choise in its selection of food, like the true cotton-caterpillar, which is believed to confine itself to the cotton-plant alone.

The grass-worm cannot be classed among those insects very injurious to cotton, although instances have been known where it has destroyed the foliage to some extent. It is more especially mentioned here as being found in cotton-fields, and often confounded with the true cotton-caterpillar. The same remedies are applicable to this insect as have been suggested for the boll-worm caterpillar, or any other night-flying moth.

Smith and Abbott, in their work on the insects of Georgia, figure an insect under the name of *Phalena (Laphrygma) frugiperda*, which also feeds upon grass, wheat, and Guinea corn; and as their figures, although very highly colored, bear considerable resemblance to the grass-caterpillar, it may eventually prove to be the same insect.

OUR ROCKY MOUNTAIN AREAS.

WASHINGTON TERRITORY.—The following facts are condensed from our correspondence :

Washington Territory is divided into two portions, known as the eastern and western, by the Cascade mountains, and which differ as much from each other as do New York and Texas. The eastern portion is composed of mountains and valleys, sparsely covered on the hills with pine, and along the streams with cottonwood. The climate is what might be termed *extreme*, sometimes being quite warm, and at others equally as cold, but at all times dry. Almost the entire country is covered with a short bunch grass; and at the same time that it is surpassed by no country for summer grazing, it is well adapted for stock in winter by feeding for about two months. It produces, by irrigation, some corn, barley in abundance, wheat, oats, potatoes, &c., &c., excellent peaches and melons, some apples, pears, plums, and cherries, and all kinds of garden vegetables. The extreme eastern portion has gold mines which sustain a large mining population. The western region is exactly the reverse of the eastern in many respects, being densely covered with a body of the largest fir timber the world ever saw. The soil on the upland is generally clay, and produces fair crops when cleared. Clearing is considered out of the question at the present time, though the day will come when many farms will be made on the uplands. The river bottoms are numerous and have a rich alluvial soil unsurpassed by any State in the Union. The climate is damp and mild, there seldom being more than eight or ten *warm* days during the summer, and the same number of *cold* ones during the winter. The products are an unlimited quantity of the finest quality, comprising fir lumber and spars, wheat in abundance on bottom land, apples, plums, pears, cherries, and all kinds of berries without limit and of the very best quality. Coal in large quantities and of medium quality is to be found in many places; strong indications of gold, silver, lead, and iron, have been found in many places, but in such limited quantities that none of the metals have been worked as yet. Stock of all kinds do extremely well in both portions of the Territory, though sheep, and perhaps the Cashmere goat, are better adapted to the eastern portion. Puget sound and the various streams produce an endless variety of fish of the very best quality.

Up to January 1st of the present year there were but five inches of snow, which remained only two days. The lowest point reached by the thermometer in a northern exposure was 19°, and that only once.

This Territory is no exception to other regions. There are many there who would gladly leave could they dispose of their property to advantage. But our correspondent intimates that people (and especially families without means) who are willing to settle down and farm, can surely make a good living. In a few years, by the aid of a generous government which *gives* land to all, they will have acquired a good home and many of the luxuries of life. Washington Territory is not so bad a place to make a fortune in as many imagine.

WALLA-WALLA.—A correspondent in Walla-Walla valley, latitude 46° north, reports a thriving state of affairs in his valley, for which he claims a climate similar to that of the latitude of 38° on the Atlantic coast. In the vicinity of rich gold deposits, the neighboring population is composed largely of miners. A few years since the most lucrative field culture yielded large returns in oats and barley, "a perfect mine of treasure." More recently the demand for these products has been interfered with by the settlement and cultivation of valleys nearer the richest mines, and wheat has become the principal crop.

Fearing competition in this direction, and casting about for other sources of agricultural prosperity, he says: "Our valley is particularly well adapted to

the production of wool and the manufacture of woollens. The streams that meander through our valley afford a never-failing water power upon each section of land through which they pass. The foot-hills and mountain sides are the natural pasture grounds for numerous flocks of sheep which are fast being brought into the country. A vast amount of untillable land is well adapted to the rearing of cattle, horses, and mules, and for all these there is a good demand."

He claims a sufficient quantity of arable land to meet the wants of a large manufacturing population, and deplotes the present necessity for the double tax in exporting the raw material and importing manufactured fabrics. There is timber within a few miles. The valley extends into Oregon, of which portion the products are identical with the settlements in Washington, and about one-fifth as much in amount. The following statistics of Walla-Walla county are given:

Taxable property.....	\$1, 883, 174
Total population.....	3, 334
Legal voters.....	1, 050
Number of horses.....	2, 748
Number of mules.....	1, 098
Number of cattle.....	7, 089
Number of sheep.....	7, 819
Number of hogs.....	4, 377
Acres under corn.....	3, 291
Acres under wheat.....	9, 573
Acres under oats.....	4, 026
Acres under barley.....	1, 034

There is no rain from June 20 to September 1. Irrigation is not deemed necessary for field crops, and is rarely employed for gardens.

MONTANA TERRITORY.—A correspondent writing from Helena City gives a lively picture of the Territory—its physical features, agricultural products, mineral wealth, &c. It lies between the 111th and 104th degrees west longitude, and the 49th and 44th degrees north latitude. It presents an infinite diversity of scenery, about two-thirds being mountainous. Nearly the whole western and part of the southern boundary are formed by the Bitter Root river, and by the Rocky mountains, from which descend innumerable streams at intervals of unsurpassed richness and beauty. Large rivers, clear lakes, high mountains, and stretches of fertile plain, often covered with luxuriant growths, constantly alternate as the traveller proceeds. While the mountains are rich in gold and silver, the bottoms along the streams afford a soil of unusual fertility. Sulphur springs, both hot and cold, abound. Craters of extinct volcanoes, and mountain sides covered with lava, are frequent. Organic remains of both plants and animals are often beneath the surface, presenting in species now extinct a rare field of research. The natural productions of the Territory may almost be said to embrace those plants and cereals which are grown in less favored regions by cultivation alone. Wheat grows luxuriantly and yields abundantly. The season is too short for Indian corn. Potatoes and other vegetables yield in profusion. Hay is made in great quantities, and sells at from \$50 to \$100 per ton. The climate is peculiar, being in the Bitter Root valley, latitude 46 degrees north, the same as on the Atlantic coast in latitude 40 degrees. Although the temperature is generally even, short periods of intense cold sometimes occur.

The population now equals 30,000 souls. According to the census returns for 1865, Gallatin county has a population of 2,000, with 15,000 acres under cultivation, yielding last year 20,000 bushels of wheat, 5,000 bushels of oats, 15,000 bushels of potatoes, and \$153,000 in gold. Edgerton county, population 8,000, gave \$5,000,000 for the year. Madison county gives, with a popu-

lation of 10,000, 5,000 acres under cultivation, 2,500 miners employed, and \$700,000 in gold. By the auditor's report it appears that upon December 1, 1865, there were in the Territory: oxen, 4,325; horses, 1,207; mules, 464; cows and calves, 1,876; sheep, 1,769; hogs, 249. Total value of property taxed, including capital in merchandise, manufactures, &c., \$2,679,039. Number of acres of land claimed, 82,706, valued at \$128,369.

The chief wealth of the Territory consists in the mineral deposits, which vie in richness with those of California. "The whole of the western half of this Territory is one vast mine of gold." Silver is found both in a metallic state, and also disguised as chlorides, sulphurets, &c. Two kinds of mining are practiced: one by washing sand and gravel for particles of gold; the other by crushing the auriferous quartz and employing the process of amalgamation with mercury. The latter is the most remunerative when conducted upon a large scale. The mountains are crossed by parallel veins of quartz containing gold, silver, copper, and lead. Iron also exists in large quantities. Masses of pure copper have been found similar to the ores of Lake Superior. One immense lode has been discovered called the "Big lode," some fifty miles long, and varying in width from fifty to one hundred feet. It assays \$40 to the ton of rock, and it is supposed that all smaller lodes will eventually be traced into it. Over four thousand lodes have been staked out and recorded. They assay from \$30 to \$1,000 per ton. Few mills have been started, but those in operation pay respectable dividends. The average yield is \$1,000 to a stamp per week.

As would be expected, prices are very high. Goods are necessarily transported across the plains, from Omaha, at great expense. The trade from Salt Lake consists chiefly of flour and salt. Tea and sugar are brought from San Francisco by water to Portland, and thence through Hell Gate Pass by pack animals. Soon a line of steamers, running up Columbia river as far as the Pend d'Oreilles lake, will afford better means of communication. A road is building from Helena to the mouth of the Muscle Shell river, the head of steamboat navigation on the Missouri river. A road recently surveyed from Sioux City to Virginia City will afford a ready communication with the States, when Indian hostilities shall cease.

The first reports of the wonderful wealth of Montana caused a great influx from all quarters. The offscourings from California, Nevada, Colorado, and the Boise Basin, poured in in alarming numbers. The roads became unsafe. Men were murdered in daylight. The "road agents" were so bold and united that they would even ride into stores, empty their revolvers at the crowd, and gallop off. Neither property nor life was secure, and business was seriously impeded. At last a few resolute men formed a vigilance committee and began by executing five of the leaders—desperate ruffians—at East Bannock. After frequent repetitions of this summary method of treatment, order was restored, and has since been maintained.

Our correspondent closes with a glowing augury for the future of Montana. Alluding to the fact that but a small portion of the gold territory has yet been prospected; that but a fraction of the richest lands are under cultivation; and that the many other sources of great wealth, together with the unequalled climate and natural advantages, have not yet received due attention, he says: "When our facilities for transportation are improved, and the screaming locomotive is heard in our valleys and along our water-courses; when permanent villages spring up on every hand, with their churches and school-houses sowing the seeds of righteousness and truth in this most wonderful region, then the older sisters will be proud of this addition to the Union, and will acknowledge as the Queen of the West the peerless, rock-embraced, snow-crowned princess *Montana*."

PRESERVATION OF TIMBER.

A discussion, in a previous number of the Monthly, of the best practicable modes of preserving timber, has called forth suggestions from several correspondents. The following, from our principal crop observer in Whiteside county, Illinois, is presented for the consideration of the public :

"The preservation of timber by some cheap and practical process within the reach of all, has engaged the attention of scientific men for many years. Stripping off the bark at certain periods, felling the trees in certain months, seasoning the timber, the steam process, and many other experiments, have been resorted to with varied, and, in most cases, unsatisfactory results. With fence-posts such experiments as charring and applying coal-tar have been made, but, as a general thing, the life of the timber is gone in a period of three to seven years, if exposed to wet and dry weather alternately. It is pretty generally conceded that the decay of timber is attributable to the sap contained in its "*capillary ducts*" or *sap pores*; that timber which is the most porous, as cottonwood and poplar, with heavy flow of sap and quick of growth, decaying the soonest. It is a well-founded fact that all timber contains within itself the elements of its own destruction, and when severed from its root and deprived of its active life-sustaining principle, the sap filling the pores of the wood, and capillary attraction no longer actively existing, it becomes stagnant, fermentation takes place, and destruction begins. The seasoning of some kinds of timber, if kept dry, arrests its decay, the watery parts of the sap in the capillary ducts becoming evaporated. But it seems as though the germ of decay is yet retained, for, when exposed to moisture, like "bakers' yeast," it is brought into active life and decay again commences. The destruction of the sap, or its entire expulsion from the pores of the wood, it seems, then, is of the greatest importance to a thorough preservation of the timber. For the past two years it has been with much interest that I have watched the progress of experiments made by a gentleman of much genius and skill residing in this vicinity, in his efforts at preserving timber. His method consists in boring one or more holes diagonally with the sap ducts or canals, filling with a white composition, and plugging up the holes, the entire cost of which is two cents for posts, and ten cents for railroad ties. I made an examination a short time ago of a white poplar post and a hemlock railroad tie which he had operated upon two years ago or more. Both were in a perfect state of preservation, the wood sound, compact, and solidified. The application of a microscope of two hundred diameters to sections of the wood, in each case disclosed the fact that the sap pores were filled with the composition, thus perfectly embalming it and causing it to look as though it might last for all time to come. This process of preserving timber is patented, and is called "foremanizing," in honor of B. S. Foreman, its inventor."

Through United States Consul J. M. Bailey, esq., of Glasgow, the following recommendation has been communicated by Mr. John Reid, a successful timber merchant :

"Permit me to mention what was done long ago by the Romans, and can be done yet at very little expense and trouble, viz: charring the wood. If the fencing is to be of hard wood, let it be cut at the proper season, well dried of natural sap, and, if circumstances permit, perhaps the best way is to have a fire constructed for the purpose. Give the timber a slight coat of tar or oil to facilitate the process, which, if properly attended to, is both quick and effective."

AGRICULTURAL STATISTICS OF IRELAND.

The collection of official statistics of agriculture in Ireland is intrusted to the constabulary and metropolitan police, numbering 4,000 enumerators. The collection of facts for 1865 was commenced in June, and continued eight weeks, in which time 600,000 separate holdings were visited. The registrar general, William Donnelly, has made his preliminary report, from which the following facts are taken :

The total acreage under all crops this year was 5,519,678 acres.
 The total acreage under all crops in 1865 was, (revised numbers) 5,648,403 “

Showing a decrease in the extent under crops in 1866 of.... 128,725 “

The crops which diminished in area this year are—

	Decrease.	
	<i>Acres.</i>	<i>Acres.</i>
Cereals:		
Oats	47,580	
Barley	26,564	
Bere and rye	99	
Beans and peas	2,118	
		76,361
Green crops:		
Potatoes	15,841	
Turnips	17,091	
		32,932
Meadow and clover		77,998
Decrease on the foregoing crops		187,291

The crops which increased in acreage in 1866 are—

	Increase.	
	<i>Acres.</i>	<i>Acres.</i>
Cereals:		
Wheat		33,485
Green crops:		
Mangel and beet	5,740	
Cabbage	2,824	
Carrots, parsnips, and other green crops	2,661	
Vetches and rape	1,630	
		12,855
Flax		12,226
Increase on the foregoing crops		58,566
Making net decrease in the area under all crops		128,725

Although the foregoing statement shows a decrease of 128,725 acres in the total extent under crops in 1866, there was an increase in the extent under “grass” to the amount of 210,425 acres, and a diminution in the area under “bog and waste unoccupied” of 86,664 acres. Woods and plantations also show an increase this year, and fallow a decrease. (See table.)

The following abstracts exhibit the acreage under each crop in 1865 and 1866, and the increase or decrease in the latter year :

Abstract of cereal crops.

	1865.	1866.	Increase in 1866.	Decrease in 1866.
	<i>Acres.</i>	<i>Acres.</i>	<i>Acres.</i>	<i>Acres.</i>
Wheat.....	266,989	300,474	33,485	-----
Oats.....	1,745,228	1,697,648	-----	47,580
Barley.....	177,102	150,538	-----	26,564
Bere and rye.....	10,091	9,992	-----	99
Beans and peas.....	16,899	14,781	-----	2,118
Total.....	2,216,309	2,173,433	33,485	76,361

Decrease in cereal crops in 1866 42,876 acres.

Abstract of green crops.

	1865.	1866.	Increase in 1866.	Decrease in 1866.
	<i>Acres.</i>	<i>Acres.</i>	<i>Acres.</i>	<i>Acres.</i>
Potatoes.....	1,066,260	1,050,419	-----	15,841
Turnips.....	334,212	317,121	-----	17,091
Mangel wurzel and beet root.....	14,478	20,218	5,740	-----
Cabbage.....	33,622	36,446	2,824	-----
Carrots, parsnips, and other green crops.....	24,130	26,791	2,661	-----
Vetches and rape.....	29,466	31,096	1,630	-----
Total.....	1,502,168	1,482,091	12,855	32,932

Decrease in green crops in 1866 20,077 acres.

GENERAL SUMMARY.

	Acres.	Acres.
Decrease in cereal crops in 1866.....	42,876	-----
Decrease in green crops in 1866.....	20,077	-----
Decrease in meadow and clover in 1866.....	77,998	-----
Increase in flax in 1866.....	-----	140,951
Total decrease in the extent of land under crops in 1866.....	-----	12,226
		128,725

There has been this year a small increase in the acreage under wheat in almost every county, amounting to 33,485 acres; and that of the "cereals" and "green crops." Oats and potatoes are still, as formerly, the most extensively grown, occupying respectively 1,697,648 and 1,050,419 acres.

The extent under crops, grass, fallow, woods, and plantations, and bog and

waste unoccupied, in 1865 and 1866, are shown by provinces in the following table :

Provinces.	Years.	Extent under crops.	Grass.	Fallow.	Woods and plantations.	Bog and waste, unoccupied.	Total.
		<i>Acres.</i>	<i>Acres.</i>	<i>Acres.</i>	<i>Acres.</i>	<i>Acres.</i>	<i>Acres.</i>
Leinster.....	1855	1,633,565	2,439,106	12,485	104,256	648,264 }	4,837,676
Do.....	1866	1,598,150	2,472,144	12,018	104,788	650,576 }	
Munster.....	1865	1,384,454	3,178,148	6,851	108,951	1,256,383 }	5,934,787
Do.....	1866	1,315,425	3,277,877	7,491	111,552	1,222,445 }	
Ulster.....	1865	1,895,715	2,129,591	6,646	57,971	1,224,344 }	5,314,267
Do.....	1866	1,881,362	2,183,227	6,411	59,506	1,183,761 }	
Connaught.....	1865	734,669	2,044,788	2,969	50,313	1,400,455 }	4,233,194
Do.....	1866	724,741	2,068,810	2,140	51,500	1,386,003 }	
Total.....	{						
	1865	5,648,403	9,791,633	28,951	321,491	4,529,446 }	20,319,924
	1866	5,519,678	10,002,058	28,060	327,346	4,442,782 }	

PERCENTAGE OF AREA IN FORESTS.

The following statement of the proportions of land in forests in the different countries of Europe is made on the authority of the German writer Rentzsch :

	Per cent.	Acres per head of population.
Norway.....	66.0	24.61
Sweden.....	60.0	8.55
Russia.....	30.90	4.28
Germany.....	26.58	0.6638
Belgium.....	18.52	0.186
France.....	16.79	0.3766
Switzerland.....	15.0	0.396
Sardinia.....	12.29	0.223
Naples.....	9.43	0.138
Holland.....	7.10	0.12
Spain.....	5.52	0.291
Denmark.....	5.50	0.22
Great Britain.....	5.0	0.1
Portugal.....	4.40	0.182

The proportionate area of forests to the total area of the United States must be somewhat more than that of Russia. Exclusive of the great plains, the western prairies, the forestless portions of oak openings, the glades of the Alleghanies, the lakes, and the cultivated area of the United States, the forests are reduced quite as much as is compatible with true public economy, and safe and healthful climatic conditions. West of the Mississippi, the scarcity of forests depreciates by unnumbered millions the value of that vast area. East of that river, and north of 38°, the forest areas cannot be materially curtailed without serious risk, some portions requiring new forest plantations, and others admitting of judicious thinning or clearing. In the South, which is nearly covered with forests, some diminution of the forest area is admissible, while indiscriminate clearing might occasion radical changes in climate and production more destructive in their character than the same decrease of forests in higher latitudes. Estimating the forest area in the United States at thirty-three per cent., and our population at 35,000,000, the number of acres per head would be eighteen, thus exceeding every European country except Norway.

WHEAT EXPERIMENTS IN SCOTLAND.

In 1863, the Highland and Agricultural Society of Scotland offered a premium for experiments to determine the relative productiveness in grain and straw of several popular varieties of white wheat. As Scottish wheat is valueless for sowing here, it is unnecessary to record the comparison; but the general facts, showing the uniformly large yields, the fertilizing and culture, and the extreme length of the season of growth, will be found interesting and suggestive. The yield is by no means as large as is sometimes attained, and it is not very much greater than the average result secured by good farmers. The exact yield and product of each variety are not given, but the range of bushels and money returns are noted in each experiment. Below we give a brief synopsis of the statements of the three leading competitors:

Report of JOHN RICHARDSON, Drylawhill, East Lothian.—Crop of 1864.—Soil a heavy loam with retentive subsoil. Previous crop, potatoes, manured on the stubble with farm-yard dung and mixture of guano and bones in drill; no additional manure being given the wheat. Seed hand-sown 20th of October, at the rate of two bushels and three pecks per acre. All the varieties appeared above ground on the 17th of November, came into ear about the 15th of June, and the crops were harvested on the 21st and 22d of August. The summer was warm and dry. Product of the four varieties per acre: good grain, from 34 bushels 60 pounds to 38 bushels 61 pounds; light grain, from 50 to 67 pounds; straw, from 3,190 to 3,584 pounds. While the calculations are based upon the estimate of 62 pounds to the bushel, the actual weight was from 62 pounds to 62 $\frac{3}{4}$. Value of grain, \$9 to \$9 75 per quarter of eight bushels.

Crop of 1865.—Soil a heavy loam. Previous crop, beans and potatoes; the manure being applied in the autumn across the ridges. Seed taken from the crop of the preceding year, and sown November 5, at the rate of two bushels and three pecks to the acre. Plants appeared December 1, came into ear about the 12th of June, and the crop was cut on the 18th of August. Product: good grain, from 33 bushels 2 pounds to 39 bushels, 36 pounds; light grain, from 96 pounds to 127 pounds; straw, from 2,940 pounds to 3,472 pounds. Actual weight of grain, from 62 pounds to 63 $\frac{1}{2}$ pounds.

Report of R. J. THOMSON, Grange, Kilmarnock.—Crop of 1864.—Soil a dark brown clay loam, 12 inches deep, with subsoil of yellow clay containing a few boulders. Green crop grown the preceding year. The product per acre ranged from 32 bushels 56 pounds to 35 bushels 40 pounds. Actual weight, from 59 to 62 bushels. Value of the crop, including straw, from \$58 to \$63 per acre.

Report of PHIPPS TURNBULL, Little Pinkerton, Dunbar.—Crop of 1864.—Soil a gravelly loam of uniform quality. Previous crop, potatoes, manured with 15 tons of farm-yard dung to the acre on the stubble of the preceding crop of barley, and 4 $\frac{1}{2}$ hundredweight per acre of a mixture of artificial manures in the drill. Seed sown November 16, the land having been previously manured with five hundredweight per acre of finely ground rape dust. Product: good grain, 30 bushels 31 pounds to 39 bushels 15 $\frac{1}{2}$ pounds; light grain, 4 to 5 bushels; straw, from 3,047 pounds to 3,866 pounds. Total value, from \$63 to \$83 per acre.

Crop of 1865.—Soil, previous cropping and management the same as last year. Seed taken from the product of the varieties sown in 1864. Previous to sowing the ground was manured with a mixture of rape, guano, and bones at the rate of 2 $\frac{1}{2}$ hundredweight to the acre. Product: good grain, from 35 to 43 bushels; light grain, from one bushel and one peck to two bushels and one peck; straw, from 2,463 pounds to 3,162 pounds. Total value, from \$72 to \$87 per acre.

THE CROPS OF PRUSSIA.

From a communication of Consul H. Kraismann, consul at Berlin, to the State Department, we are permitted to make the following extracts, showing a favorable condition of the crops of Prussia for the present season :

"I beg to transmit herewith a brief account of this year's crops and harvest in Prussia, which may not be wholly without interest to our agricultural department. Reports received from all parts of the Prussian monarchy represent the yield as fully an average one. Rye, in grain, even exceeds this ; the yield in straw also being very fine. Wheat has suffered considerably from insects and other casualties ; still, there is a fair average crop. Barley yields much more than an average crop. Of oats there is a very rich and full crop. Potatoes promise a very fine and full harvest, there being no substantial sign of the rot or disease as yet. The same is true of beets, the sugar beet crop promising particularly well. There has been a fair yield of meadow hay, but the first harvest of clover hay has been poor, and the second will be better. The total result gives Prussia all she wants for her own consumption, and leaves a very considerable quantity for export."

In the first quarter of the present year, as given in a Calcutta circular received through the State Department from the port of Calcutta, there were shipped 104,203 cowhides and 32,701 buffalo hides ; in the second quarter, 41,500 cowhides and 15,358 buffalo hides. Of sheepskins, 21,500 in the first quarter and 3,000 in the second. Of goatskins, 289,500 in the first quarter, and 312,040 in the second.

SOURCE OF BRITISH REVENUE.

The opinion is prevalent among superficial observers who have heard the phrase, "British free trade," that but little revenue is derived from customs. The truth is, a larger proportion is obtained from customs than from excise, and almost as much as from the excise, stamps, and income tax together. In proportion to "internal revenue taxes" the United States income from customs is far less than in Great Britain. The following statement shows the various sources of British revenue in the years ending June 30, 1865 and 1866 :

	1865.	1866.
Customs	\$111, 520, 000	\$106, 845, 000
Excise	97, 795, 000	100, 335, 000
Stamps	47, 405, 000	47, 765, 000
Taxes	16, 335, 000	17, 105, 000
Property tax	38, 495, 000	28, 885, 000
Post office	20, 550, 000	21, 750, 000
Crown lands	4, 057, 500	1, 605, 000
Miscellaneous	14, 388, 780	14, 340, 000
	<u>350, 546, 280</u>	<u>338, 630, 000</u>

BRITISH POLICY.

It is suggestive to note the character as well as the amount of British exports and imports.

The aggregate value of the exports of British and Irish produce and manufactures during the first eight months of the present and two previous years was as follows :

1864.....	\$543, 581, 095
1865.....	512, 003, 480
1866.....	626, 329, 100

During the first seven months the imports of foreign and colonial produce were valued as under—

1864.....	\$595, 342, 145
1865.....	471, 525, 310
1866.....	674, 356, 435

These imports are almost entirely raw products. The exports, on the contrary, were, with few and small exceptions, manufactured goods, including a great variety of cotton, woollen, linen, and other textures; iron, steel, copper, and their manifold products; leather, saddlery, harness; carriages, furniture, and upholstery; glass, earthenware, and porcelain; books, &c. The cotton manufactures, for instance, exported in eight months exceeded \$200,000,000.

The policy of Great Britain is to import raw products, but no manufactures, and to export only manufactured products bearing the added value of skilled labor upon the original cost of raw material.

INSECTS.

The following are among the notes of correspondents pertaining to insect depredations :

Winnecago county, Illinois.—The potato crop has been injured by the bug in some places, while the rot is damaging it generally. [This bug is probably the ten-lined spearman—*Doryphora decemlineata*.]

Jackson county, Kansas.—On the 5th of September locusts appeared in such numbers that they ate all the garden vegetables and corn fodder; and the sowing of winter wheat has been delayed thereby.

Bourbon county, Kansas.—The invading grasshopper army has just reached this county, and is rapidly destroying the wheat sown this fall; but other crops will not be injured, owing to their matured state.

Butler county, Kansas.—The grasshoppers have destroyed most all the vegetables and much injured the corn crop. The ground is full of their eggs, and if one-tenth of them shall hatch out next spring they will eat every “green thing” and fill the earth and air.

Greene county, Alabama.—The planters’ prospects are gloomy indeed. The boll worm [*Heliothis armigera*] and caterpillar [*Anomis xyliana*] have nearly ruined the crop.

Washington county, Mississippi.—The cotton crop is being damaged by the army worm, [*Anomis xyliana*,] and on some plantations they have stripped every green thing, while on others, being in smaller numbers, they have fed and “webbed up,” and are now moths in chrysalis.

Yalabusha county, Mississippi.—The season has been the most remarkable one in the memory of our planters. All crops have failed, more or less. The cotton caterpillar [*Anomis xyliua*] made its appearance about two weeks since, and has done a great deal of damage in connexion with the rains of September. The regular boll worm [*Heliothis armigera*] has also been at work, and in some places done much injury to the crop.

Jackson county, Florida.—Cotton has come to a sudden termination this month, the caterpillar [*Anomis xyliua*] having cut off at least one-half of a badly cultivated crop, and not only reduced the quantity, but depreciated the quality.

Tensas county, Louisiana.—The second crop of cotton-caterpillars [*Anomis xyliua*] commenced their ravages about the 5th of September, and by the 15th the entire crop of the county was stripped of its leaves.

CASUAL NOTES.

Flax in Ireland.—The official returns of flax acreage of Ireland, for 1866, exhibit an increase of 11,966 acres over the area of 1865. The following is the total exhibit for sixteen years :

	Acres.		Acres.
1851	140,536	1859	136,282
1852	137,008	1860	128,595
1853	174,579	1861	147,957
1854	151,403	1862	150,070
1855	97,055	1863	214,099
1856	106,311	1864	301,693
1857	97,721	1865	251,433
1858	91,646	1866	263,419

Grapes in North Carolina—Stanley county.—The grapes could not resist the cold nights in June. The finest foreign varieties rotted, and the foliage of the hardiest native vines perished from mildew. The Scuppernong alone seems to bid defiance to the inclemency of the season.

An apple congress.—The French Pomological Congress began its eleventh session at Melun on the 14th September. Its object is to induce the rejection of all mediocre and bad sorts of apple trees, and to promote the cultivation of the finer and more profitable kinds.

Medical properties of the teasel.—M. Beullard informs the French Academy that the leaves of the teasel, (*Dipsacus sylvestris*), pounded and applied to wounds and bruises, has a powerful action in the prevention and cure of gangrene. He removes mortified flesh, washes the wound in chlorurated water, and then applies a poultice of the leaves. He states that he used this remedy with success for fifteen years.

Odessa grain market.—Dates have been received at this department to September 20. Notwithstanding the news of a reduction in the Marseilles market, transactions were brisk during September 1–20, and reached the number of 196,416 bushels removed, and 220,224 bushels to be delivered.

Wheat	184,512 bushels.
Rye	8,928 “
Flaxseed	1,190 “
Soft wheat to be delivered	160,704 “
Rye to be delivered	35,712 “
Flaxseed to be delivered	74,832 “

The first qualities of wheat were quoted at from \$1 30 to \$1 50; rye, 50 to 56 cents; maize, 69 to 72 cents; barley, 59 to 60 cents; oats, 47 to 50 cents.

Insects in France.—It is reported that insects in portions of France are unusually numerous and destructive this season; that especially the hills from Campigny to Sency, from which large supplies of apples, cherries, and plums have been drawn, are producing little of any kinds of fruit, in consequence of the destruction of the nests of small birds by the children of peasants.

Lumber from Washington Territory.—According to information received from Oakland, Mason county, this county turned out during the past year 15,000,000 feet, at \$4 per thousand for rough timber, making a total income of \$60,000 from this source.

CROP RETURNS.

The returns of correspondents, dated October 1, indicate the average amount and quality of wheat produced, compared with the product of 1865, (compared with 1860 in the case of the States hitherto unrepresented;) the comparative amount of old wheat on hand in the several States; the product and quality of oats, rye, and barley, compared either with yields of 1865 or 1860, as in the case of wheat; the comparative acreage and condition of the bean and pea crop; the condition of sorghum, buckwheat, potatoes, tobacco, and cotton, and the average number of fattening cattle in the several States in comparison with 1865 in the North and with 1860 in the South.

Table showing the condition of the crops on the first day of October, 1866.

States.	WHEAT.		OATS.		RYE.		BARLEY.		HAY.	
	Average amount of crop compared with 1865.	Average quality compared with 1865.	Average amount of crop compared with 1865.	Average quality compared with 1865.	Average amount of crop compared with 1865.	Average quality compared with 1865.	Average amount of crop compared with 1865.	Average quality compared with 1865.	Average amount of crop compared with 1865.	Average quality compared with 1865.
Maine	11.6	10.3	11.3	11.1	11.6	11.	10.1	10.1	6.7	9.7
New Hampshire	11.	10.5	11.	10.	11.	10.2	10.3	10.1	7.7	10.
Vermont	11.	10.7	11.5	9.5	10.2	10.	10.4	10.	7.7	10.
Massachusetts	9.1	9.5	10.7	10.5	9.7	9.7	10.	10.	7.2	10.3
Rhode Island	10.	10.	11.	11.	10.3	10.	11.	11.3	7.3	9.
Connecticut	10.3	10.3	11.6	12.	10.	10.	10.	10.	7.6	10.6
New York	10.6	10.3	11.1	10.	10.	10.	10.3	10.	9.	10.
New Jersey	10.1	11.2	10.3	11.	11.3	10.5	10.	10.	7.	10.
Pennsylvania	7.7	10.7	11.8	10.5	10.	10.2	10.3	10.	7.	10.5
Delaware	13.	15.6	12.3	11.3	11.3	11.6	13.	12.	10.	12.3
Maryland	8.4	12.5	11.5	11.	10.	10.4	9.5	10.	7.	10.
Virginia	4.4	9.7	12.	11.	7.	9.4	.....	.....	7.	9.5
North Carolina	6.7	9.4	10.6	11.2	7.5	9.5	8.5	9.5	7.5	10.
South Carolina	4.	7.7	7.	9.5	6.	9.2	.....	.....	7.4	10.
Georgia	5.	7.7	8.	10.	6.	9.3	8.	9.5	11.	10.
Florida .....	.....	.....	4.	4.	.....	.....	.....	.....	7.5	7.
Alabama	5.4	8.1	7.3	9.5	6.	10.	6.2	9.	13	9.3
Mississippi	4.4	6.	4.6	7.	6.	7.7	5.7	11.3	9.5	9.
Louisiana .....	.....	.....	10.	10.	.....	.....	.....	.....	10.	10.
Texas	11.3	9.3	11.	10.	11.	10.4	9.	10.	12.6	13.1
Arkansas	6.1	8.	6.5	10.	5.	7.1	15.	10.	7.1	9.1
Tennessee	7.3	9.	13.1	11.6	9.	9.6	8.	10.3	9.8	10.2
West Virginia	5.4	8.5	13.2	11.	9.	10.2	11.8	9.7	9.6	9.1
Kentucky	7.4	12.6	11.7	10.9	7.8	10.2	8.5	10.	9.	9.8
Missouri	12.	13.5	13.8	12.9	10.2	11.	10.5	11.2	12.6	12.9
Illinois	11.3	13.5	10.7	10.4	7.	10.5	9.8	10.2	9.2	10.7
Indiana	7.	13.3	12.6	11.2	9.3	10.4	9.4	10.4	7.6	11.
Ohio	5.8	10.7	11.7	10.5	8.6	10.	8.3	10.	7.6	10.8
Michigan	9.	11.7	11.4	10.	10.	10.	10.7	10.2	10.1	10.1
Wisconsin	10.	7.8	9.3	7.5	9.8	9.6	10.2	9.3	11.9	9.5
Minnesota	8.6	8.2	10.	8.9	10.6	9.7	10.2	9.4	11.4	10.4
Iowa	11.5	11.7	10.5	10.8	9.8	10.5	11.1	10.5	11.6	10.7
Kansas	13.6	14.6	12.9	11.1	11.2	10.4	10.9	11.1	10.3	10.3
Nebraska Territory	15.5	14.9	13.4	12.8	14.7	11.7	13.	13.4	10.1	9.5
Utah Territory	11.2	9.5	10.8	10.	10.	10.	11.2	10.4	11.8	10.5
Colorado Territory	40.5	13.4	29.2	13.	20.	14.	18.3	11.7	12.4	11.4

Table showing the condition of the crops, &c.—Continued.

States.	Acreage of beans compared with 1860.	Condition of the same.	Acreage of peas compared with 1860.	Condition of the same.	Acreage of peas sown for forage compared with 1860.	Condition of corn crop, October 1.	Condition of the sorghum crop, October 1.	Condition of the buckwheat crop, October 1.
Maine	10.	8.6	10.	9.6	10.	9.4	10.	10.3
New Hampshire	9.1	9.	9.2	9.	10.	9.4	-----	10.3
Vermont	10.	9.	10.	9.7	10.	8.	-----	9.
Massachusetts	9.8	9.4	10.2	9.6	10.	9.5	7.5	11.
Rhode Island	9.	10.	10.	10.	-----	10.	-----	10.
Connecticut	10.	9.6	10.	10.	10.	10.2	10.6	12.
New York	9.3	9.	9.8	9.6	9.6	8.5	8.5	10.7
New Jersey	10.2	10.1	10.1	10.2	9.	10.	10.3	10.
Pennsylvania	9.6	10.	10.	10.	10.	10.	10.	10.5
Delaware	10.	10.	10.	10.	-----	11.6	11.	10.3
Maryland	10.	10.	10.	10.	10.	11.	10.	10.
Virginia	8.	9.7	7.	9.	6.4	8.3	9.	11.
North Carolina	9.	9.	8.3	8.	8.7	7.2	7.5	8.3
South Carolina	10.	5.	6.	5.5	6.	3.	2.	-----
Georgia	8.4	8.	6.2	7.5	6.4	5.	6.5	3.
Florida	10.	10.	7.	7.7	6.	8.	-----	-----
Alabama	8.	9.	7.6	8.2	7.	5.6	7.	10.
Mississippi	7.5	9.5	5.3	7.3	5.	4.	5.	3.5
Louisiana						6.	-----	-----
Texas	11.5	10.7	12.	10.7	10.5	10.7	11.7	-----
Arkansas	5.2	10.	4.3	9.	6.	9.4	11.	10.
Tennessee	9.5	9.3	8.2	9.6	7.5	8.7	9.	9.9
West Virginia	9.9	9.7	9.9	9.5	10.5	11.	10.	11.6
Kentucky	10.2	10.	10.2	10.	9.3	10.5	10.2	10.
Missouri	9.6	9.5	9.7	9.2	10.	8.4	9.1	8.3
Illinois	9.5	8.9	10.4	10.	10.1	8.7	8.5	9.
Indiana	9.5	9.1	10.4	9.8	10.6	10.8	9.7	11.1
Ohio	9.8	9.5	10.	10.	10.3	9.6	10.	10.9
Michigan	10.9	9.8	11.	9.9	11.5	9.1	9.1	10.3
Wisconsin	8.7	8.6	10.7	9.3	10.9	6.7	7.5	7.6
Minnesota	9.6	8.4	10.	9.4	10.5	6.1	5.6	7.
Iowa	9.5	9.1	10.3	9.4	10.6	8.2	7.7	8.4
Kansas	12.1	9.1	11.2	9.9	12.	8.8	9.3	7.6
Nebraska Territory	9.3	8.3	11.6	9.4	10.	7.3	9.2	6.5
Utah Territory	18.6	10.2	19.	10.8	-----	11.3	9.3	10.
Colorado Territory	23.3	15.	25.	17.5	12.	10.8	12.	10.5

Table showing the condition of the crops, &c.—Continued.

States.	Condition of the potato crop, October 1.	Condition of the tobacco crop, October 1.	Condition of the cotton crop, October 1.	Average proportion of the cotton crop lost by insects.	Average number of fattening cattle compared with 1865.	Average condition of same	Average amount of old wheat compared with 1865.
Maine	11.	8.6	.....	.....	9.3	10.	10.
New Hampshire	11.	.....	.....	.....	9.	10.	9.
Vermont	9.	9.3	.....	.....	9.2	10.	9.
Massachusetts	10.	9.2	.....	.....	8.2	10.2	9.3
Rhode Island	9.7	9.	.....	.....	7.7	10.1	.....
Connecticut	10.2	10.	.....	.....	10.2	10.	10.
New York	10.	9.6	.....	.....	9.5	10.2	9.
New Jersey	9.3	9.7	.....	.....	9.3	9.7	9.
Pennsylvania	11.	9.7	.....	.....	9.3	10.	7.6
Delaware	10.	10.	.....	.....	10.3	11.3	11.
Maryland	10.	10.	.....	.....	10.2	10.2	8.
Virginia	9.3	9.7	9.	3.	5.5	9.5	2.2
North Carolina	9.7	10.5	8.3	2.6	8.	10.	6.
South Carolina	5.7	5.	3.8	1.	7.	10.	2.
Georgia	8.5	9.	4.	4.1	6.	9.3	3.5
Florida	9.2	7.3	6.5	4.2	9.	10.3	.....
Alabama	9.5	11.7	4.1	2.2	5.2	9.5	5.
Mississippi	9.	7.1	4.	3.	7.3	9.3	5.4
Louisiana	7.3	8.5	6.	5.	5.	10.	.....
Texas	13.3	13.	6.4	4.	12.	12.5	7.
Arkansas	9.	11.	6.4	7.	6.	10.	8.
Tennessee	11.7	10.1	8.4	1.1	6.6	10.4	4.
West Virginia	10.5	10.5	.....	.....	10.7	10.7	4.3
Kentucky	11.	10.8	.....	.....	9.3	11.1	4.7
Missouri	7.7	8.4	9.1	1.2	10.	11.	8.8
Illinois	8.5	9.7	8.4	2.	9.7	10.6	6.3
Indiana	9.7	10.2	.....	.....	9.2	10.9	6.
Ohio	9.	9.7	.....	.....	9.7	10.4	5
Michigan	9.6	8.6	.....	.....	9.4	10.3	8.
Wisconsin	7.5	9.	.....	.....	9.	10.5	5.4
Minnesota	9.1	6.1	.....	.....	10.6	10.2	4.9
Iowa	8.1	8.3	.....	.....	9.8	10.3	7.4
Kansas	8.7	8.6	8.	1.	10.9	10.2	7.8
Nebraska Territory	6.5	7.6	.....	.....	11.6	10.	7.5
Utah Territory	10.1	9.	.....	.....	11.1	10.8	9.4
Colorado Territory	12.6	.....	.....	.....	15.5	12.2	6.6

Table showing the amount of oats, in bushels, as estimated from the returns of correspondents.

States.	1860.	1862.	1863.	1864.	1865.	1866.
Maine	2,988,939	3,738,423	3,364,581	2,102,994	2,348,342	2,653,066
New Hampshire	1,329,213	1,495,365	1,345,829	1,095,891	1,346,380	1,483,218
Vermont	3,511,605	4,389,506	3,950,556	3,611,938	4,213,926	4,846,014
Massachusetts	1,180,075	1,475,094	1,327,585	1,194,827	1,194,827	1,278,464
Rhode Island	234,453	253,990	203,192	182,873	140,202	154,222
Connecticut	1,522,218	1,603,936	1,764,329	2,011,334	2,363,317	2,741,446
New York	35,175,133	43,968,916	43,968,916	35,724,746	48,675,090	54,039,349
New Jersey	4,539,132	5,446,958	4,902,263	5,735,647	6,309,211	6,498,487
Pennsylvania	27,387,149	34,233,936	34,233,936	37,657,329	46,571,661	54,954,559
Maryland	3,959,298	4,524,912	4,072,421	5,429,894	6,135,779	6,780,035
Delaware	1,046,910	1,308,637	1,570,364	1,884,437	1,884,437	2,374,388
Virginia	10,186,720					10,245,156
North Carolina	2,781,860					2,948,771
South Carolina	936,974					655,881
Georgia	1,231,817					985,453
Florida	46,899					18,759
Alabama	689,179					497,990
Mississippi	221,235					101,768
Louisiana	89,377					89,377
Texas	985,889					1,084,478
Arkansas	473,268					308,924
Tennessee	2,267,814					2,970,836
Kentucky	4,617,029	3,562,772	3,562,772	4,346,326	4,824,421	5,644,572
Ohio	15,479,133	10,930,935	12,024,028	14,428,833	18,963,608	22,187,420
Michigan	4,073,098	5,430,797	5,430,797	4,810,136	7,275,331	8,293,877
Indiana	5,028,755	5,028,755	5,531,630	6,084,793	8,062,351	10,158,562
Illinois	15,336,072	17,892,200	19,681,420	24,273,751	28,088,197	30,054,370
Missouri	3,680,870	2,660,653	2,128,522	2,128,522	2,501,013	3,851,556
Wisconsin	11,059,270	13,271,124	14,598,236	12,043,538	18,466,758	17,174,086
Iowa	5,879,653	7,055,583	7,761,141	9,313,369	12,007,380	12,607,749
Minnesota	2,202,500	2,934,067	2,053,848	2,259,232	3,388,848	3,388,848
Kansas	80,744	96,892	116,270	146,500	155,290	200,316
Nebraska Territory	79,977	159,954	267,939	223,284	335,926	450,138
Total	171,197,012	171,463,405	173,800,575	176,690,064	225,252,295	271,712,695

Table showing the amount of rye, in bushels, as estimated from the returns of correspondents.

States.	1860.	1862.	1863.	1864.	1865.	1866.
Maine	123,290	184,389	165,951	128,612	135,042	156,648
New Hampshire	128,248	162,033	145,830	109,373	146,872	161,559
Vermont	130,976	130,976	130,976	140,798	151,748	153,782
Massachusetts	388,085	388,085	388,085	413,957	413,957	401,538
Rhode Island	28,259	33,911	33,911	37,302	31,707	32,658
Connecticut	618,702	618,702	618,702	721,889	776,030	776,030
New York	4,786,905	5,385,268	5,385,268	5,205,759	5,309,874	5,309,874
New Jersey	1,439,497	1,499,497	1,499,497	1,424,523	1,246,458	1,408,496
Pennsylvania	5,474,792	6,843,427	6,843,427	6,843,427	6,569,690	6,569,690
Maryland	518,901	608,901	518,011	529,744	476,770	476,770
Delaware	27,209	34,011	37,412	41,153	37,038	41,852
Virginia	944,330					608,453
North Carolina	436,856					371,327
South Carolina	89,091					53,454
Georgia	115,532					69,319
Florida	21,506					
Alabama	72,457					43,474
Mississippi	39,474					23,684
Louisiana	36,065					
Texas	111,860					112,978
Arkansas	78,092					39,046
Tennessee	257,989					232,190
Kentucky	1,055,262	791,447	791,447	554,014	476,453	419,287
Ohio	656,146	1,079,040	863,232	704,974	687,350	591,121
Michigan	494,197	494,197	494,197	434,894	413,150	413,150
Indiana	400,226	444,695	411,343	397,632	371,123	345,144
Illinois	981,322	981,322	883,190	850,071	833,069	666,455
Missouri	293,262	393,262	219,947	237,542	218,529	222,899
Wisconsin	888,534	1,066,241	1,012,929	810,343	945,400	926,492
Iowa	176,055	111,266	122,392	119,333	119,333	116,946
Minnesota	124,259	153,323	179,791	161,974	178,171	188,861
Kansas	3,928	4,713	5,184	4,061	4,061	4,548
Nebraska Territory	1,185	2,000	2,000	1,600	2,080	2,225
Total	20,996,250	21,239,451	20,782,782	19,872,975	19,543,905	21,029,950

Table showing the amount of barley, in bushels, as estimated from the returns of correspondents.

States.	1860.	1862.	1863.	1864.	1865.	1866.
Maine	802, 109	1, 002, 636	1, 002, 636	668, 424	735, 266	742, 619
New Hampshire	121, 103	141, 287	127, 159	96, 278	101, 979	105, 038
Vermont	75, 282	94, 102	94, 102	94, 102	100, 375	104, 389
Massachusetts	134, 891	168, 613	151, 752	149, 584	144, 598	144, 598
Rhode Island	40, 993	51, 241	46, 117	41, 506	31, 821	35, 003
Connecticut	20, 813	20, 813	20, 813	18, 732	19, 200	19, 200
New York	4, 186, 667	4, 882, 778	4, 882, 778	3, 710, 911	4, 329, 406	4, 459, 288
New Jersey	24, 915	33, 220	29, 098	29, 098	27, 167	27, 167
Pennsylvania	530, 716	636, 859	573, 174	630, 491	603, 470	621, 574
Maryland	17, 350	21, 887	19, 699	26, 591	26, 591	25, 262
Delaware	3, 646	4, 254	5, 105	4, 595	4, 595	5, 972
Virginia	68, 846					
North Carolina	3, 445					2, 938
South Carolina	11, 490					
Georgia	14, 682					11, 745
Florida	8, 369					
Alabama	15, 135					9, 383
Mississippi	1, 875					1, 060
Louisiana	324					
Texas	67, 562					60, 805
Arkansas	3, 158					4, 737
Tennessee	25, 144					20, 115
Kentucky	270, 685	203, 014	203, 014	172, 563	161, 778	137, 516
Ohio	1, 601, 082	1, 512, 525	1, 399, 086	1, 585, 630	1, 559, 203	1, 294, 139
Michigan	305, 914	407, 885	407, 885	338, 388	391, 562	418, 971
Indiana	296, 374	345, 767	311, 191	339, 198	350, 504	339, 474
Illinois	1, 175, 651	1, 175, 651	1, 205, 042	1, 144, 790	1, 058, 931	1, 037, 753
Missouri	228, 502	171, 377	171, 377	162, 809	148, 855	156, 297
Wisconsin	678, 992	905, 323	950, 589	674, 919	843, 649	860, 521
Iowa	454, 116	544, 939	599, 432	584, 446	561, 068	622, 784
Minnesota	125, 130	156, 412	156, 412	148, 592	178, 310	181, 876
Kansas	4, 128	4, 953	5, 448	5, 901	6, 661	7, 255
Nebraska Territory	1, 243	2, 486	5, 446	4, 630	6, 297	8, 184
Total	11, 146, 695	12, 488, 022	11, 368, 155	10, 632, 178	11, 391, 286	11, 465, 653

COMMENTS ON THE PRECEDING TABLES.

Wheat.—The wheat crop of the United States in 1849 was 100,485,944 bushels; in 1859, 173,104,924, an increase of 72 per cent. A similar increase would give, in 1869, a crop of 297,000,000; and in 1866—at 40 per cent. increase over 1860—the present crop of the whole country should be 242,000,000 bushels. That the present crop does not reach these figures is due only to a deficiency of at least thirty millions in the South, occasioned by the interruption of their industry by war, and forty-five millions in the North, mainly owing to unfavorable seasons during the past three years.

Our returns of wheat are nearly complete, and will be given in full next month. To give an idea of the actual amount of the present crop, which interested parties are just now very busy in depreciating, the following approximation of our final estimate is made, which will not vary greatly from the ultimate showing:

	Bushels.
States hitherto regularly reported	143, 000, 000
Eleven southern States hitherto unreported	17, 000, 000
Pacific States and Territories	20, 000, 000
	<hr/>
	180, 000, 000
	<hr/>
	<hr/>

This is only five per cent. increase over the crop of 1860, and 80,000,000 bushels less than the former ratio of increase would produce. Now, the crop of the eleven seceding States was—

In 1860, (census)	31, 441, 826
In 1866, (estimated from returns)	16, 841, 717

The same ratio of increase would give about 30,000,000 bushels more than the present exhibit. If we estimate 35,000,000 for the deficiency in the North from bad seasons, and 15,000,000 for the retarding influence of scarcity of labor, we have accounted for the 50,000,000 bushels deficit referred to above.

The average quantity of wheat in 1860 to each individual was about five and a half bushels; in 1866, calculating upon the basis of 35,000,000 people and the wheat estimates above, fully five bushels. It will be seen from this exhibit how unfounded is the prediction of famine-threatening scarcity, and how unreasonable the assumption that prices of wheat and flour must necessarily advance. Indeed, the present high prices, though influenced by comparative scarcity, are due far more to the spirit of speculation fostered by an abundance of money and low rates of interest, with excessive rates of transportation.

It is an anomalous condition of affairs when prices are persistently advanced with an existing supply of five bushels of wheat to each individual, leaving an actual surplus for export, and prices so comparatively low abroad as to prevent foreign shipments. California alone claims a surplus sufficient to supply breadstuffs to the entire population of New England.

Old wheat.—It is common to hear from excited and hasty individuals, farmers, sometimes, as well as grain dealers, and commercial editors, that "there is no old wheat in the country." A diminution of one-fifth or one-fourth of the usual surplus is overestimated, without sense or reason. If one locality is found to have very little wheat on hand, it is straightway assumed that all others are in like destitution; a conclusion which never in practice follows such a premise. If these hasty persons would take the trouble to extend their observation, they would find that while one locality has but one-fifth of its customary surplus, there are others that have four-fifths, or perhaps, in some cases, more than ever before. These differences exist among the several counties of a State, as well as between the States themselves.

It is true that there is a deficiency—a very considerable deficiency—in the surplus of old wheat usually on hand at this season of the year. The Ohio States suffered heavily by winter-killing of wheat, and a scarcity of grain resulted; but in such cases provident old farmers are very careful to save enough, not only for seed, but for bread for their families; and not a few, excited by high prices, refuse to sell at the highest rates, hoping still for higher. It is this fact that explains why Ohio has this fall 5 tenths of the supply of last year, which was only three-fourths of that of the previous year. This would make the present supply of old wheat little more than a third of the stock on hand in October, 1864. Indiana has 6 tenths of last year's surplus; Kentucky and West Virginia little more than 4 tenths; Wisconsin, 5.4 tenths; Michigan, 8 tenths; Illinois, 6.3 tenths; Iowa, 7.4 tenths; Minnesota, 4.9 tenths.

In the eastern States the supply in actual quantity amounts to little at any time; this year, however, it is nearly the same as last year. Maine and Connecticut have 10 tenths; New Hampshire, Vermont, Massachusetts, New York, and New Jersey, 9 tenths.

An average of these returns, with due reference to the natural preponderance of the wheat-growing section, would be fairly stated at 6 tenths of last season's stock. This is about what should reasonably be expected. It indicates a comparative scarcity of old wheat, but by no means the total failure that has been declared to exist by interested speculators.

Oats.—The present is undoubtedly the largest crop of oats ever produced in the country. The crop of 1850 was 146,584,179; that of 1860, 171,197,012. The increase of the past two years has been very large. The estimate for the present year is 271,712,695. The increase is almost universal, Wisconsin being the only northern State reporting less than last year. Virginia, North Carolina, Texas, and Tennessee, make larger returns than in 1860; taking the eleven

seceded States together, the aggregate foots up very nearly the same figures as in 1860, when they produced nineteen millions of bushels.

Rye.—The quantity of rye produced appears to be stationary. Very little is grown in the South. The northern crop is about the same as last year. The whole yield, exclusive of that of the Pacific States, is estimated at 21,029,950 bushels.

Barley.—There is also but little variation in the product of barley from year to year. The census figures for the crop of 1859 are 11,146,695. The returns for 1866, exclusive of the Pacific region, indicate 11,465,653 bushels. The amount grown in the eleven seceded States in 1860 was only 219,930 bushels; in 1866, 110,773 bushels. Compared with the crop of 1865, that of 1866 averages a small fraction less than 10 tenths.

The following is an exhibit, first, of the census returns of 1860; then the estimates of accessible portions of the country in 1862-'65; and, finally, a full estimate of the product of the country east of the Rocky mountains in 1866:

	Oats.	Rye.	Barley.
1860.....	171, 197, 012	20, 996, 250	11, 146, 695
1862.....	171, 463, 405	21, 239, 451	12, 488, 022
1863.....	173, 800, 575	20, 782, 782	11, 368, 155
1864.....	176, 690, 064	19, 872, 975	10, 632, 178
1865.....	225, 252, 295	19, 543, 905	11, 391, 286
1866.....	271, 712, 695	21, 029, 950	11, 465, 653

Hay.—This crop is deficient by one or two-tenths in nearly all the northern States east of the Mississippi. The Trans-Mississippi States report a large crop. The southern States, which usually produce little hay, have economized their resources in this respect, and Georgia, Alabama, Louisiana, Texas and Tennessee claim a larger quantity than in 1860. The quality throughout the country is a fair average.

Corn.—An estimate of the corn crop will be given next month. The condition on the first of October is shown in the table. There is no essential variation from the showing of last month.

Buckwheat.—The condition of this is everywhere reported at 10 tenths or more, excepting in Vermont, 9 tenths, Wisconsin 7.6 tenths, Minnesota 7 tenths, Iowa 8.4 tenths, Kansas 7.6 tenths, and some of the southern States.

Tobacco.—The condition of tobacco is more variable than that of some other crops. It is fine in Kentucky, fair in Ohio, and a full average in Connecticut; but in other States there are some drawbacks.

Fattening cattle.—In Connecticut, Delaware, Maryland, Texas, West Virginia, Missouri, Kansas, and Minnesota, there is as good a supply of fattening cattle as at this period in 1865; but the other States show a deficiency, some of 1 tenth; Rhode Island, of twenty-three per centum; Massachusetts, of eighteen; and some of the southern States a still larger percentage.

Cotton.—Our final estimates will be given hereafter. The prospects of the crop, as indicated in the present returns, are somewhat less flattering in some locations. The injuries from insects are reported at 4.2 tenths of the growing crop in Alabama; 3 tenths in Mississippi; 5 tenths in Louisiana; 4 tenths in Texas. Injuries have also resuted in Louisiana from floods.

METEOROLOGY.

SEPTEMBER, 1866.

Table showing the highest and lowest range of the thermometer, (at dates prefixed,) mean temperature, and amount of rain fall, (in inches and tenths,) for September, 1866, at the following places, as given by the observers named. Daily observations were made at the hours of 7 a. m. and 2 and 9 p. m.

Place.	County.	Observer's name.	Date.	Max.	Date.	Min.	Mean.	Rain.
MAINE.								
				°		°	°	In.
Steuben	Washington	J. D. Parker	3, 7	73	24	40	57.9	8.15
Barnard	Piscataquis	Edwin Pitman	3	76	23	38	55.0	7.35
West Waterville	Kennebec	E. F. Wilbur	3	80	23	38	59.7	5.20
Gardiner	do	R. H. Gardiner	3	77	23	40	59.0	5.66
Lisbon	Androscoggin	Asa P. Moore			23	30		5.26
Cornish	York	Silas West	3	82	23	34	59.0	5.18
Cornishville	do	G. W. Guptill	3	82	23	41	60.5	5.75
NEW HAMPSHIRE.								
Stratford	Coos	Branch Brown	5	74	16	30	54.7	6.78
Shelburne	do	F. Odell	3	82	24	36	58.2	.....
North Barnstead	Belknap	C. H. Pitman	3	83	16	34		5.00
Concord	Merrimaack	John T. Wheeler	12	81	23, 24	37	58.9	3.06
Claremont	Sullivan	Arthur Chase	3	82	16, 23, 24	34	59.5	7.18
VERMONT.								
Lunenburg	Essex	H. A. Cutting	5	90	23, 24	28	51.5	6.00
Craftsbury	Orleans	James A. Paddock	2	75	23	34	53.8	7.22
Randolph	Orange	Charles S. Paine	2	81	16	31	58.2	5.12
Middlebury	Addison	H. A. Sheldon	2	76	23	36	57.5	4.93
Brandon	Rutland	H. Buckland	5	88	23	39	59.2	5.20
Wilmington	Windham	Rev. J. B. Perry	1	84	23	29	57.7	.....
MASSACHUSETTS.								
Kingston	Plymouth	G. S. Newcomb	3	86	16, 23	44	64.1	5.80
Topsfield	Essex	S. A. Merriam	3	85	23, 24	44	60.4	4.73
Lawrence	do	John Fallon	1	85	24	39	56.0	4.76
Newbury	do	John H. Caldwell	3	88	23	40	61.0	.....
North Billerica	Middlesex	Rev. E. Nason	2	87	24, 28	37	61.8	.....
New Bedford	Bristol	Samuel Rodman	3	79	16	43	63.6	5.20
Do	do	Edward F. Tucker	3	83	16	43	64.6	5.05
Worcester	Worcester	Joseph Draper, M.D.	3	83	24	42	62.4	4.77
Mendon	do	J. G. Metcalf, M. D.	3	83	24	40	61.4	5.80
Lunenburg	do	G. A. Cunningham	3	84	16	40	61.4	.....

Table showing the range of the thermometer, &c., for September—Cont'd.

Place.	County.	Observer's name.	Date.	Max.	Date.	Min.	Mean.	Rain.
MASSACHUSETTS—C'd.								
Amherst.....	Hampshire	Prof. E. S. Snell ...	3	83	16, 23, 24	36	60.0	4.71
Springfield	Hampden	J. Weatherhead	3	92	24	35	62.2	5.21
Richmond	Berkshire	William Bacon	5	87	10	38	64.9	7.02
Williams College.....	do	Prof. A. Hopkins.....	2	80	23	36	58.5	4.97
RHODE ISLAND.								
Newport	Newport	Wm. H. Crandall....	3, 7	81	23	42	62.4	5.02
CONNECTICUT.								
Pomfret	Windham	Rev. D. Hunt	3	80	16	40	60.4	5.71
Columbia	Tolland	Wm. H. Yeomans ...	3	88	24	38	63.6	.....
Middletown	Middlesex	Prof. John Johnston .	3	89	16	40	64.2	6.74
Colebrook	Litchfield	Charlotte Rockwell .	3	84	16, 23	38	57.4	.....
Groton	New London	Rev. E. Dewhurst ..	3	86	16	45	64.2	4.06
NEW YORK.								
Moriches	Suffolk	Miss C. Z. Smith	3	90	29	50	69.6	5.50
South Hartford	Washington	G. M. Ingalsbe	4	86	24	37	62.5	5.28
Germantown	Columbia	Rev. S. W. Roe	3	89	16, 23, 24	42	62.0	6.50
Fishkill Landing.....	Dutchess	Wm. H. Denning	2	85	23	41	61.6	.....
Garrison's	Putnam	Thomas B. Arden.....	3	82	23	42	60.8	5.14
Throg's Neck	Westchester	Miss E. Morris	2, 3	84	10, 22, 23	50	66.0	.....
Deaf & Dumb Inst.	New York	Prof. O. W. Morris ..	1, 2, 3	82	23, 24	46	65.3	4.85
St. Xavier's College ..	do	Rev. Jno. M. Aubier ..	2	85	23	48	67.0	3.15
Columbia College.....	do	Dr. Wm. Alsberg	2	83	23	51	66.8	2.97
Flatbush	Kings	Eli T. Mack	3	84	24	46	62.6	3.86
Newburgh	Orange	Jas. H. Gardiner	5	85	16, 23, 29	49	63.4	3.20
Gouverneur	St. Lawrence.....	C. H. Russell	1	81	23	34	56.0	6.02
North Hammond.....	do	C. A. Wooster	1	80	23	34	55.9	10.44
South Trenton	Oneida	Storrs Barrows	1	84	23	34	63.8	8.07
Houseville	Lewis	Walter D. Yule.....	1	81	23	36	56.4	7.92
Depauville	Jefferson	Henry Haas	1	82	16	39	57.0	6.42
Theresa	do	S. O. Gregory .....	.....	.....	.....	.....	5.58	.....
Oswego	Oswego	Wm. S. Malcolm	2	83	23	40	57.0	5.31
Palermo	do	E. B. Bartlett	1	85	22, 23	37	56.2	7.30
Baldwinsville	Onondago	John Bowman	2	78	23	38	56.4	.....
Skaneateles	do	W. M. Beauchamp .....	.....	.....	23	34	58.0	.....
Nichols	Tioga	Robert Howell	1	88	23	39	58.7	.....
Geneva	Ontario	Rev. W. D. Wilson	2	85	23	43	59.4	4.58
Rochester	Monroe	M. M. Mathews, M.D. .	2	83	23	40	58.7	4.11
Little Genesee	Allegany	Daniel Edwards	2, 4	80	23	30	56.7	3.40
Buffalo	Erie	Wm. Ives	4	86	22	39	58.7	7.75
NEW JERSEY.								
Paterson	Passaic	Wm. Brooks	2	87	23	43	65.2	7.31
Newark	Essex	W. A. Whitehead	3	84	16	43	65.2	5.47
New Brunswick	Middlesex	George H. Cook	3	84	16	47	65.6	5.84
Trenton	Mercer	E. R. Cook	3	87	23	49	69.9	7.88
Burlington	Burlington	John C. Deacon	3	86	23	46	65.7	8.00
Moorestown	do	Thos. J. Beans	3	91	23	47	67.3	6.21
Mount Holly	do	M. J. Rhee, M.D.	3	86	16, 23	48	66.9	.....

Table showing the range of the thermometer, &c., for September—Cont'd.

Place.	County.	Observer's name.	Date.	Max.	Date.	Min.	Mean.	Rain.
NEW JERSEY—Con'd.								
Haddonfield	Camden	Samuel Wood	3	90	16	47	67.7	5.93
Greenwich	Cumberland	R. C. Sheppard	3	86	16	48	68.3	7.06
Dover	Morris	Howard Shriver			29	53		
PENNSYLVANIA.								
Nyces	Pike	John Grathwohl	3	86	23, 28	38	58.9	3.10
Fallsington	Bucks	Ebenezer Hance	1	85	16, 23	49	66.7	6.50
Philadelphia	Philadelphia	Pf. J. A. Kirkpatrick	3	90	16, 23	51	69.7	7.46
Germantown	do	Thomas Meehan	3	93	22	45	66.9	.....
Mooreland	Montgomery	Anna Spencer	3	86	16	45	65.2	8.32
Dyberry	Wayne	Theodore Day	1	82	23	31	58.0	.....
Nazareth	Northampton	L. E. Kicksecker	3	94	7	56	65.5	.....
North Whitehall	Lehigh	Edward Kohler	3	83	16	37	64.0	.....
Stevensville	Bradford	J. Russell Dutton	1	88	23	32	60.5	4.33
Reading	Berks	J. Heyl Kaser	3	88	16, 23	45	65.6	.....
Ephrata	Lancaster	W. H. Spera	3	92	16	46	66.6	4.47
Harrisburg	Dauphin	John Heisely, M. D.	1	87	23	48	68.9	4.39
Lewisburg	Union	Prof. C. S. James	1	86	23	39	62.1	5.18
Tioga	Tioga	E. T. Bentley	1	90	22, 23	38	61.0	6.75
Pennsville	Clergfield	Elisha Fenton	12	83	22	38	59.5	5.67
Connellsville	Fayette	John Taylor	1	86	22	40	62.8	.....
New Castle	Lawrence	E. M. McConnell	1	83	22	37	61.3	.....
Canonsburg	Washington	Wm. Smith, D. D.	1	88	22	35	62.8	5.85
MARYLAND.								
Woodlawn	Cecil	Jas. O. McCormick	3	88	27	48	67.5	8.98
Catonsville	Baltimore	Grape & Ranlett	13, 19	84	22, 27	46	64.6	.....
Annapolis	Anne Arundel	Wm. R. Goodman	19	88	27	49	65.6	10.63
Frederick	Frederick	Miss H. M. Baer	3, 4	86	23	44	64.7	6.00
WEST VIRGINIA.								
Romney	Hampshire	W. H. McDowell	4, 5, 18	88	23	40	62.1	.....
NORTH CAROLINA.								
Statesville	Iredell	Thos. M. Allison	3, 4	90	22	44	67.4	7.25
Wilson	Wilson	E. W. Adams, A. M.	3	94	22	54	74.1	4.94
Raleigh	Wake	Rev. F. P. Brewer	3	92	22	52	72.1	5.50
FLORIDA.								
Gordon	Alachua	H. B. Scott	5	94	29	68	78.7	.....
Lake City	Columbia	Edward R. Ives	20	90	29	65	83.3	13.25
TEXAS.								
Austin	Travis	J. Van Nostrand	2, 3, 4, 5, 6	91	21	55	75.4	4.84
MISSISSIPPI.								
Natchez	Adams	William McCary	3	88	22	45	74.6	3.20
Grenada	Yalabusha	Albert Moore	4	90	22	45	.....	.....
ARKANSAS.								
Helena	Phillips	O. F. Russell	4	97	22	46	74.2	9.16
TENNESSEE.								
Clarksville	Montgomery	Wm. M. Stewart	4	91	22	44	68.0	5.60
Lookout Mountain	Hamilton	Edward F. Williams	4	100	21	46	69.1	.....

Table showing the range of the thermometer, &c., for September—Cont'd.

Place.	County.	Observer's name.	Date.	Max.	Date.	Min.	Mean.	Rain.
KENTUCKY.								
Louisville	Jefferson	Mrs. L. Young	2	87	22	39	66.8	12.80
Chilesburg	Clark	S. D. Martin, M. D.	1, 3, 4	84	22	40	.....	5.31
Danville	Boyle	O. Beatty	4	90	22	45	66.8	5.08
OHIO.								
New Lisbon	Columbiana	J. F. Benner	5, 6	85	27	38	63.8	7.68
Steubenville	Jefferson	Roswell Marsh		84	.....	39	64.5	7.50
Milnersville	Guernsey	Rev. D. Thompson	25	82	27	38	60.3	8.02
East Cleveland	Cuyahoga	Mr. and Mrs. G. A. Hyde	1	83	22	42	60.6	7.91
Gallipolis	Gallia	A. P. Rodgers	1	83	22	44	64.6	8.40
Kelley's Island	Erie	Geo. C. Huntington	1	85	21	48	63.0	7.15
Norwalk	Huron	Rev. A. Newton	1	84	22	40	59.2	7.06
Westerville	Franklin	Prof. H. A. Thompson	2	83	22	40	63.0	13.90
Kingston	Ross	Prof. John Haywood	2	85	22	41	63.6	6.49
Marion	Marion	H. A. True, M. D.	1	82	22	41	59.4	11.35
Kenton	Hardin	C. H. Smith	2	94	22	56	64.2	.....
Urbana University	Champaign	M. G. Williams	2	82	22	36	61.8	15.88
Hillsborough	Highland	J. McD. Mathews	2	79	22	40	62.1	9.59
Bethel	Clermont	George W. Crane	2	81	22	38	59.0	8.00
Cincinnati	Hamilton	George W. Harper	2	82	22	43	64.8	10.55
Do	do	R. C. Phillips	2	82	22	50	67.1	11.21
College Hill	do	John W. Hammitt	2	83	30	50	.....	12.00
Farm School	do	L. B. Tuckerman	2	78	23	40	.....	12.50
MICHIGAN.								
Monroe City	Monroe	F. & E. Whelpley	1	82	22	40	58.6	4.61
State Agricult'l Col.	Ingham	Prof. R. C. Kedzie	6	74	22, 26	36	55.5	5.81
Litchfield	Hillsdale	R. Bullard	3, 9	78	21, 22	35	57.4	10.42
Grand Rapids	Kent	E. S. Holmes, D. D. S.	3	77	26	38	60.0	.....
Kalamazoo	Kalamazoo	Milton Chase, M. D.	3	92	25	48	69.0	.....
Northport	Leelanaw	Rev. Geo. M. Smith	4, 28	74	22	42	56.4	.....
Holland	Ottawa	L. H. Streng	3	76	26	35	56.6	7.85
Ontonagon	Ontonagon	Edwin Ellis, M. D.	28	84	20	36	53.9	.....
Homestead	Benzie	George E. Steele	29	75	26	36	54.3	.....
INDIANA.								
Aurora	Dearborn	George Sutton, M. D.	2	90	22	42	65.8	10.74
Yevay	Switzerland	Chas. G. Boerner	2	90	21, 22	46	68.9	15.25
Muncie	Delaware	G. W. H. Kemper, MD.	1	84	22	40	61.0	11.72
Spiceland	Henry	William Dawson	1, 2, 16	89	22	42	61.6	16.30
Columbia City	Whitley	Dr. F. and Miss L. McCoy	16	84	22	36	59.1	6.19
Indianapolis	Marion	Mrs. Z. Butterfield, A. M.	2	86	22	41	61.9	.....
New Harmony	Posey	John Chappellsmith	4	87	22	45	66.3	10.74
ILLINOIS.								
Golconda	Pope	Wm. V. Eldredge	1	92	22	39	71.9	7.83
Aurora	Kane	A. Spaulding	1, 3, 4	76	21	37	57.9	4.80
Sandwich	DeKalb	N. E. Ballou, M. D.	3	80	21, 22	32	58.2	2.94
Ottawa	La Salle	Mrs. E. H. Merwin	1	82	22	37	59.7	4.72
Winnebago	Winnebago	J. W. & Miss Tohnau	2, 3, 4, 29	77	21	37	57.3	4.19
Rochelle	Ogle	Daniel Carey	4	83	21	40	59.1	.....
Wyanet	Bureau	E. S. & Miss Phelps	30	88	21, 22	40	60.3	6.81

Table showing the range of the thermometer, &c., for September—Cont'd.

Place.	County.	Observer's name.	Date.	Max.	Date.	Min.	Mean.	Rain.
ILLINOIS—Cont'd.								
Tiskilwa	Bureau	Verry Aldrich	3	80	22	36	58.2	.....
Elmira	Stark	O. A. Blanchard	1, 3, 29, 30	76	21	34	57.4	8.25
Peoria	Peoria	Frederick Brendel	2	79	21	39	60.2	6.50
Springfield	Sangamon	G. M. Brinkerhoff	2	93	21, 22	42	61.0	.....
Loami	do	Timothy Dudley	4	81	20	40	60.2	6.55
Dubois	Washington	Wm. C. Spencer	2	83	21	28	53.6	10.15
Galesburg	Knox	Pf. W. Livingston	1, 2, 3, 30	76	22	34	.....	8.38
Manchester	Scott	Dr. J. & C. W. Grant	28	87	21	38	61.3	7.08
Mount Sterling	Brown	Rev. A. Duncan	1	84	21	39	61.2	.....
Augusta	Hancock	S. B. Mead, M. D.	1	77	21	38	61.7	10.30
WISCONSIN.								
Manitowoc	Manitowoc	Jacob Lüps	5	75	15	40	57.1	1.27
Plymouth	Sheboygan	G. Moeller	29	82	22	35	56.1	1.90
Milwaukee	Milwaukee	I. A. Lapham, LL.D.	4	76	21, 22	36	57.1	4.55
Do	do	Carl Winkler	1	74	21	38	59.0	5.67
Geneva	Walworth	Wm. H. Whiting	3	77	20	35	57.8	.....
Delavan	do	Leveus Eddy	1, 29	75	16	33	55.8	3.96
Waupacca	Waupacca	H. C. Mead	29	83	15, 21	38	57.4	.....
Embarrass	do	E. Everett Breed	29	86	21	35	58.3	1.21
Rocky Run	Columbia	W. W. Curtis	3	77	20	35	.....	.....
Beloit	Rock	H. D. Porter	28	75	21	32	55.9	1.88
Baraboo	Sauk	M. C. Waite	29	86	21	40	.....	2.60
MINNESOTA.								
St. Paul	Ramsey	Rev. A. B. Paterson	28	78	21	30	53.9	2.26
Minneapolis	Hennepin	Wm. Cheney	28	86	21	32	56.1	2.22
New Ulm	Brown	Charles Roos	28	87	21	31	58.2	2.02
IOWA.								
Clinton	Clinton	P. J. Farnsworth, M.D.	29, 30	80	21, 23	36	57.1	10.00
Davenport	Scott	Sidney Smith	30	75	20	42	56.5	7.05
Dubuque	Dubuque	Asa Horr, M. D.	29	78	21	34	57.6	3.55
Monticello	Jones	M. M. Moulton	30	82	21	34	54.8	3.73
Guttenburg	Clayton	Jas. P. Dickerson	30	84	21, 26	34	55.7	.....
Ceres	do	J. M. Hagensick	29	80	21	36	57.6	.....
Manchester	Delaware	Allen Mead	30	82	21	36	54.8	2.58
Mount Vernon	Linn	Prof. A. Collins	30	79	21	35	57.7	.....
Iowa City	Johnson	Prof. T. S. Parvin	28	81	21	33	59.1	6.53
Independence	Buchanan	Mrs. D. B. Wheaton	28, 30	82	19	33	53.8	3.70
Do	do	D. S. Deering	30	78	21	34	56.7	.....
Waterloo	Black Hawk	T. Steed	29, 30	80	14, 15	40	57.3	.....
Algona	Kossuth	Philip Dorweiler	27, 28	82	20	34	53.5	.....
Fontanelle	Adair	A. F. Bryant	27, 29	82	21	33	57.4	6.50
Harris Grove	Harrison	Jacob F. Stern	27	82	20	33	57.1	4.40
MISSOURI.								
St. Louis University	St. Louis	Rev. F. H. Stuntebeck	2	84	21	43	63.6	8.28
Allenton	do	A. Fender	2	89	22	32	59.3	8.90
Union	Franklin	Dr. W. Moore	2	89	21, 22	40	62.3	7.26
Harrisonville	Cass	John Christian	1	86	21	34	61.1	7.72
Easton	Buchanan	P. B. Sibley	27, 28, 30	84	18, 20, 22	40	60.1	11.54
KANSAS.								
Council Grove	Morris	Abner Woodworth	1	88	20	42	63.3	4.55

AVERAGES OF SEPTEMBER.

Table showing the average temperature and fall of rain (in inches and tenths) for the month of September in each year named, and for the six years first named, collectively, in each State in which the observations were made.

States.	SEPTEMBER.									
	Averages, six years, 1854—1859.		Averages, 1863.		Averages, 1864.		Averages, 1865.		Averages, 1866.	
	Mean temp.	Mean rain.	Mean temp.	Mean rain.	Mean temp.	Mean rain.	Mean temp.	Mean rain.	Mean temp.	Mean rain.
	Deg.	In.	Deg.	In.	Deg.	In.	Deg.	In.	Deg.	In.
Maine	57.2	3.17	55.9	3.68	54.7	4.22	62.8	1.39	58.5	6.08
New Hampshire	57.4	3.52	54.9	2.34	56.2	3.86	63.3	2.22	57.8	5.51
Vermont	57.1	3.77	56.3	3.42	53.8	5.34	61.0	2.83	56.3	5.69
Massachusetts	62.1	3.68	58.5	3.38	58.6	3.01	65.9	0.98	61.6	5.27
Rhode Island	61.5	3.43	57.8	1.74	.....	.....	.....	.....	62.4	5.02
Connecticut	61.6	3.64	58.1	2.31	59.6	3.26	66.6	0.53	62.0	5.50
New York	60.5	3.60	56.9	2.31	60.2	3.86	67.3	3.73	56.6	5.59
New Jersey	64.8	3.40	60.0	1.30	62.6	5.45	69.7	4.07	67.0	6.71
Pennsylvania	65.2	3.80	62.4	2.52	61.9	8.24	69.5	3.71	63.7	5.64
Delaware	68.9	3.30	.....	.....	66.7	8.80	69.6	6.95	.....	.....
Maryland	67.2	4.46	61.1	.....	67.1	3.33	74.4	1.81	65.6	8.57
District of Columbia .....	.....	.....	63.3	3.09	66.0	2.57	.....	.....	.....	.....
West Virginia .....	.....	.....	.....	.....	.....	.....	73.3	3.10	62.1	.....
Mississippi .....	.....	.....	.....	.....	.....	.....	77.4	5.17	74.6	3.20
Tennessee	71.0	2.91	.....	.....	.....	.....	74.1	6.19	68.6	5.60
Kentucky	70.0	2.54	.....	.....	67.8	4.33	74.1	6.39	66.8	7.73
Ohio	66.3	2.69	62.1	2.18	63.4	5.33	71.2	5.95	62.6	10.32
Michigan	62.4	3.61	56.5	1.98	62.7	3.34	67.8	4.92	58.0	7.17
Indiana	67.5	3.21	54.5	2.05	65.0	4.24	74.0	6.13	63.5	11.82
Illinois	66.4	2.70	63.2	3.07	66.0	3.45	71.7	6.66	55.0	6.81
Wisconsin	61.3	3.57	58.3	1.27	59.7	4.33	67.8	6.17	57.2	2.88
Minnesota	57.4	3.35	59.1	1.87	62.2	1.57	68.3	4.42	56.1	2.17
Iowa	64.5	3.19	62.2	3.65	63.7	2.79	70.9	4.53	56.4	5.34
Missouri	70.3	3.11	69.0	2.86	68.3	4.08	74.8	4.78	61.3	8.73
Kansas	69.5	2.20	72.6	0.55	73.3	2.23	74.5	1.00	63.3	4.55
Nebraska Territory	67.7	2.40	65.6	1.75	66.9	1.77	72.3	1.31	58.9	5.90

NOTES OF THE WEATHER—SEPTEMBER, 1866.

Cornish, Maine.—September 15.—Heavy frost at night.

Lisbon, Maine.—Heavy thunder showers on the 12th and 14th, and frost on the night of the 15th, killing vines, beans, &c., and hurting corn in some places. Heavy frosts on the nights of the 22d and 23d, killing every sprig.

Gardiner, Maine.—The temperature of the month was seventeen hundredths of a degree above the average of September for thirty years. The amount of rain was 2.43 inches above the average; only two Septembers on the record have equalled it. There have been two slight frosts, but no killing frost.

Concord, New Hampshire.—September 23.—First ice this morning, it measured an eighth of an inch thick. September 30, the leaves began to change color in August, and the colors are now far advanced and the falling is quite profuse.

Stratford, New Hampshire.—September 21.—Diffuse lightning and thunder in the southwest at 8 p. m.

Brandon, Vermont.—September 1.—Heavy thunder-shower from the north at 9.40 p. m. 10th, light frost on lowlands, doing no injury. 16th, Hard frost this morning; it killed corn, vines, &c.

Craftsbury, Vermont.—September 22.—The greatest fall of rain which has occurred here for many years commenced about three o'clock yesterday, and continued about twelve hours, raising the streams higher than ever was known before, and carrying off many bridges, dams, and some mills. The water in the gauge this morning measured two inches and two-tenths.

New Bedford, Massachusetts.—September 30.—Forest leaves but little changed. Some maples, gum-trees, and wild vines, red; grass green, and growing on all sides. No frost yet in this immediate vicinity.

Lunenburg, Massachusetts.—Slight frost on the mornings of the 16th and 23d.

North Billerica.—September 16.—Heavy frost last night; melons, &c., damaged.

Pomfret, Connecticut.—September 30.—There has been no frost at this place yet.

Colebrook, Connecticut.—September 10.—Heavy frost on low ground. 24th, heavy frost last night.

Depauville, New York.—September, like August, was unusually wet and cool, with only a few pleasant days, in the first week of the month. There were no injurious frosts. One hundred and sixteen days, from May 17 to September 10, were without frost.

Nichols, New York.—The rain from the 17th, near night, till 7 a. m. of the 21st, was the largest and longest storm in a number of years.

South Trenton, New York.—September has been uncommonly wet; rain fell on seventeen days.

Moriches, New York.—There was no frost in September.

South Hartford, New York.—From 3 o'clock a. m. of the 17th, till 2 a. m. of the 23d, there was nearly a continuous rain, and on Friday, the 21st, from 4 to 5 p. m., there were a number of heavy discharges of thunder in the southeast, not distant, passing to the northeast with brilliant diffuse lightning. The first frost was on the morning of the 15th, very white, and much damaging tender vegetation; also severe frosts on the mornings of the 23d and 24th.

Rochester, New York.—September 24.—White frost this morning.

Buffalo, N. Y.—The mean temperature of September was nearly $3\frac{1}{4}$ degrees below the average of the month for the last eight years, and 10 below that of last year; but the month was more remarkable for its clouds and rains. The amount for the month was four inches and two-tenths above the average. The

most that has fallen, including melted snow, in any one previous month within eight years was 6.32 inches, in May, 1864, which is 1.43 less than in the September just closed.

North Hammond, N. Y.—White frost on the morning of the 16th, and heavy frost on the 23d.

Germantown, N. Y.—The first frost seen in this neighborhood was on the morning of the 23d.

Palermo, N. Y.—The past September was the coldest in thirteen years.

Newark, N. J.—The mean temperature of September was nearly a degree and four-tenths above the average of twenty-two years, having been exceeded only in the years 1846, 1850, 1851, and 1865. The fall of rain was nearly two inches more than the average of the month, and here was a larger amount only in the years 1847, 1859, and 1860, during the period covered by these observations.

Mount Holly, N. J.—September 8.—Last night about 9½ o'clock a violent hurricane commenced, as near as the observer can learn, about five miles in a direct line southwest from this place, and ended at a point five miles due east from here; width of track about fifty yards. It prostrated fences and trees throughout its path, and near the end of it entirely demolished a dwelling-house of two stories.

Dyberry, Penn.—September 23.—Frost this morning killed corn, potatoes, &c., and made forest leaves commence to fall. Ice formed one-fourth to three-eighths of an inch thick in vessels. The ground looked as though a light snow had fallen. 30th, about one-half of the evenings during the month were clear after sunset, but there was no day wholly clear.

North Whitchall, Penn.—September 16.—Light frost in some localities.

Byberry, Penn.—September 14.—Clear till 4 p. m., when a storm came up from the west. Rain fell in torrents, and from 5½ to 5¾ hail-stones fell as large as pigeons' eggs.

Fallingson, Penn.—The month was very wet, and there was no frost of any consequence.

Nyels, Penn.—Frost on the mornings of the 16th, 23d, and 28th, and on the 23d ice on standing water three-sixteenths of an inch thick.

Horsham, Penn.—September 14.—A thunder-storm arose in the west about 5 p. m., and passed over to the east, raining heavily here for about an hour, thunder not very near. A few miles south there was very heavy hail, breaking many windows.

Grampion Hills, Penn.—September was very wet, yet without any very heavy rains, but almost continually showery, making it very difficult to get in the fall crops. There were no storms of wind and very little thunder or lightning; some light frosts, but not severe enough to materially injure the corn or vines.

Woodlawn, Maryland.—Hoar-frost on low grounds on the mornings of the 16th, 23d, 27th, and 28th.

Romney, West Virginia.—September 1.—Hardest rain of the season 3d, very hard rain and some thunder. 23d, first frost of the season; there were earlier frosts in the country, but this was the first in town.

Lake City, Florida.—Rains on fourteen days of the month; heavy on the 3d, 6th, 10th, 14th, 15th and 16th.

Grenada, Mississippi.—September 30.—Vegetation, cotton especially, unusually green and growing for this season of the year; but little cotton open, whereas nearly half the crop should have been picked. Peas, an important crop here, are very green and backward and much fear is felt of damage from early frost.

Lookout Mountain, Tennessee.—September 18.—Sudden shower at noon;

violent rain. 20th, sudden showers during the day, thunder, violent rain from 5 to 6 p. m.

Chilesburg, Kentucky.—September 30.—Light frost has appeared several times in low situations, but it is not seen that any damage has been done to the tenderest vegetation. A hard frost would do great damage now. Corn is uncommonly green for the season; grape-vines are also green, having matured badly.

Norwalk, Ohio.—Corn injured in some localities by frost on the 20th and 21st.

College Hill, Ohio.—One-fourth of the annual amount of rain fell during the first nineteen days of September.

Bethel, Ohio.—The amount of rain (eight inches) which fell during the past month exceeds that of any September for twenty-five or thirty years; it is more than the observer has ever known.

Urbana, Ohio.—The storm which commenced at 10½ a. m. of the 17th was remarkable for the great quantity of rain. The rain on the 17th was moderate, but between 5 and 8 o'clock on the 18th the quantity was 4.10 inches, and the whole quantity for that day was 6.20 inches, which was greater than the observer ever before knew in the same period. The rain ceased on the 20th at 6½ p. m.; the whole quantity of water being 7.43 inches. The rain began again on the 24th at night, and stopped the next night, the quantity of water being 2.59 inches. Great damage was done to crops in low grounds along water-courses, to bridges, railroads, &c. There is no known record of so great a quantity of water falling in so short a time. The whole quantity for the month (15.88 inches) is only 1.76 inch less than that for the first six months of the year, and is over one-third of the average annual quantity for Urbana.

(Other registers contain notices of this unusually large rain in Ohio, and the newspapers abound with full and detailed accounts of the extensive damage caused by the overflow of streams.)

Monroe, Michigan.—Slight frost on the night of the 14th; few things were hurt in this vicinity, but some injury was done in the country, back from the lake. There was a heavier frost on the night of the 21st, doing much injury in the country.

Litchfield, Michigan.—September 15.—Grass entirely white with frost at 6 o'clock this morning, injuring the crops in many places very much; skim ice formed in dishes. 22d.—A general frost this morning; ice a sixteenth of an inch thick formed in out-door dishes.

Holland, Michigan.—September 15.—Thermometer 32° at 6 a. m.

Muncie, Indiana.—September 15.—Light frost last night, but not sufficient to do any damage. 18th and 19th.—It rained almost constantly during these two days; the White river at this place was greatly swollen, the water being higher in it than it has been since the year 1848. 22d.—A heavy white frost last night, but no damage to the corn nor any other vegetable.

Columbia City, Indiana.—September 15.—First frost of the season. 29th.—Eel river higher than for some years past.

Veray, Indiana.—September 14.—A most terrific thunder-storm occurred last night, commencing at 10 p. m., and continuing until 2.30 this morning. The rain fell in torrents; all the creeks and streams are overflowing. 19th and 20th.—Five inches and seven-tenths of rain fell on these two days.

Peoria, Illinois.—September 21.—One mile out of the city water froze in exposed places.

Winnebago, Illinois.—September 22.—Severe frost; temperature 32° at sunrise. In some localities on the 21st, the thermometer stood at 28° and in one at 26°. The frosts of the 21st and 22d were very injurious to the corn crop, it being very backward on account of long continued cool and wet weather.

Aurora, Illinois.—The first frost occurred on the 21st, materially injuring the

corn, as there was but a small proportion matured. The thermometer stood 32° at sunrise; some ice in open vessels out-doors. On the 22d the frost was harder; the leaves on the maple and some fruit trees were turned yellow.

Golconda, Illinois.—September 30.—The Ohio river is higher at this point than ever before known at this season of the year, and still rising. Bottom lands are overflowed, and great damage is done to corn and potato crops.

Springfield, Ohio.—There has been more rain than in any other year at this season for more than ten years. It rained on twenty-two days during the month.

Mount Stirling, Illinois.—September 21.—First white frost of the season visible this morning. In some places ice a sixteenth of an inch thick was observed. Garden vegetables do not appear to be injured, and grape-vines are still untouched in this vicinity. 22d.—Another white frost visible in some places this morning, but not so extensive as on yesterday.

Harrisonville, Missouri.—September 21.—A light white frost, which killed most tender plants in some localities.

Edinburg, Missouri.—September 15.—Last night the most violent hail-storm visited this locality that is remembered ever to have occurred here. The hail-stones varied from the size of a partridge egg to that of a hen's egg. The storm began at 9 p. m. and continued, with but one slight intermission, for one hour, and extended, as far as ascertained, from west to east 19 miles, and from north to south 5 miles. Dead grouse were found on the prairies, killed by the storm. 21st.—Very heavy frost last night.

St. Louis, Missouri.—September 13.—Distant thunder and lightning at 6 p. m. Very high wind at $6\frac{3}{4}$, followed by heavy rain; lightning continuous, thunder terrific; some hail. At $8\frac{3}{4}$ it abated somewhat, but at $9\frac{1}{2}$ another storm followed, with more hail, the sky all in a blaze. The rain ceased during the night.

Allenton, Missouri.—September 21.—Heavy white frost; thermometer 31° at 6 a. m.; vegetation not injured. 22d, heavy white frost; thermometer 30° at 6 a. m.; leaves of plants stiff with frost: but little damage done to the most tender plants.

Milwaukee, Wisconsin.—Hoar-frost on the mornings of the 15th, 21st and 22d. Ice on the 21st.

Delavan, Wisconsin.—September 15.—First light frost, doing little or no hurt. 21st, thermometer at 6 a. m. $30^{\circ}.9$; ice formed.

Embarrass, Wisconsin.—September, though cold and cloudy, was dry; swamps and springs are drier than at any time this or last year; rivers were also low.

Bloomfield, Wisconsin.—September 14.—First frost; ice formed an eighth of an inch thick on low ground; the corn on high ground not much injured.

Plymouth, Wisconsin.—First frost on the 21st. The mean temperature of the month was four degrees lower than the average of September for the last six years.

Minneapolis, Minnesota.—September 15.—Heavy white frost this morning. 21st, ice a quarter of an inch thick on barrels of water out of doors.

New Ulm, Minnesota.—September 21.—First frost this morning; ice a tenth of an inch thick; much damage done to corn and other vegetables.

St. Paul, Minnesota.—A very severe frost on the 21st; killed all kinds of vines and fruits and greatly injured corn.

Monticello, Iowa.—September 21.—First frost; water froze an eighth of an inch; it has been ninety-three days since the last frost; last year there were 139 days without frost.

Algona, Iowa.—September 21.—First frost; ice formed a tenth of an inch thick. 22d, a violent storm swept over the prairies, being strongest between 11 a. m. and 1 p. m. 30th.—During the last ten days large numbers of wild geese passed over to the southward.

Independence, Iowa.—September 15.—Slight frost last night. 21st.—White

frost this morning; water standing in vessels skimmed over with ice; surface of ground stiffened.

Manchester, Iowa.—September 21.—Hard frost, the first to do any hurt; thermometer 29° at sunrise; ice three-sixteenths of an inch thick.

Guttenberg, Iowa.—September 14.—First flock of cranes going south. 15th.—First white frost seen in spots this morning. 30th.—The month has been very calm, the wind at no time above a very light breeze.

Council Grove, Kansas.—September 1.—Between noon and 1 p.m. the whole heavens seemed full of grasshoppers, course southwest. By 2 o'clock they began to alight, and in fifteen minutes every available bush and all herbage became loaded. 2d.—Multitudes of them are leaving to-day; there still remain over half their number; entire cabbage-heads are eaten by them, and cornfields stripped of their leaves. 15th.—There still remain enough to destroy what is left of vegetation; farmers have stopped sowing wheat, as it is devoured as soon as up.

Bellevue, Nebraska.—September 21.—Frost killing tops of grass and vines, and injuring late corn considerably.

Richland, Nebraska.—This was the coldest September in eight years, and, except the last week, was very showery and wet.

MONTHLY REPORT

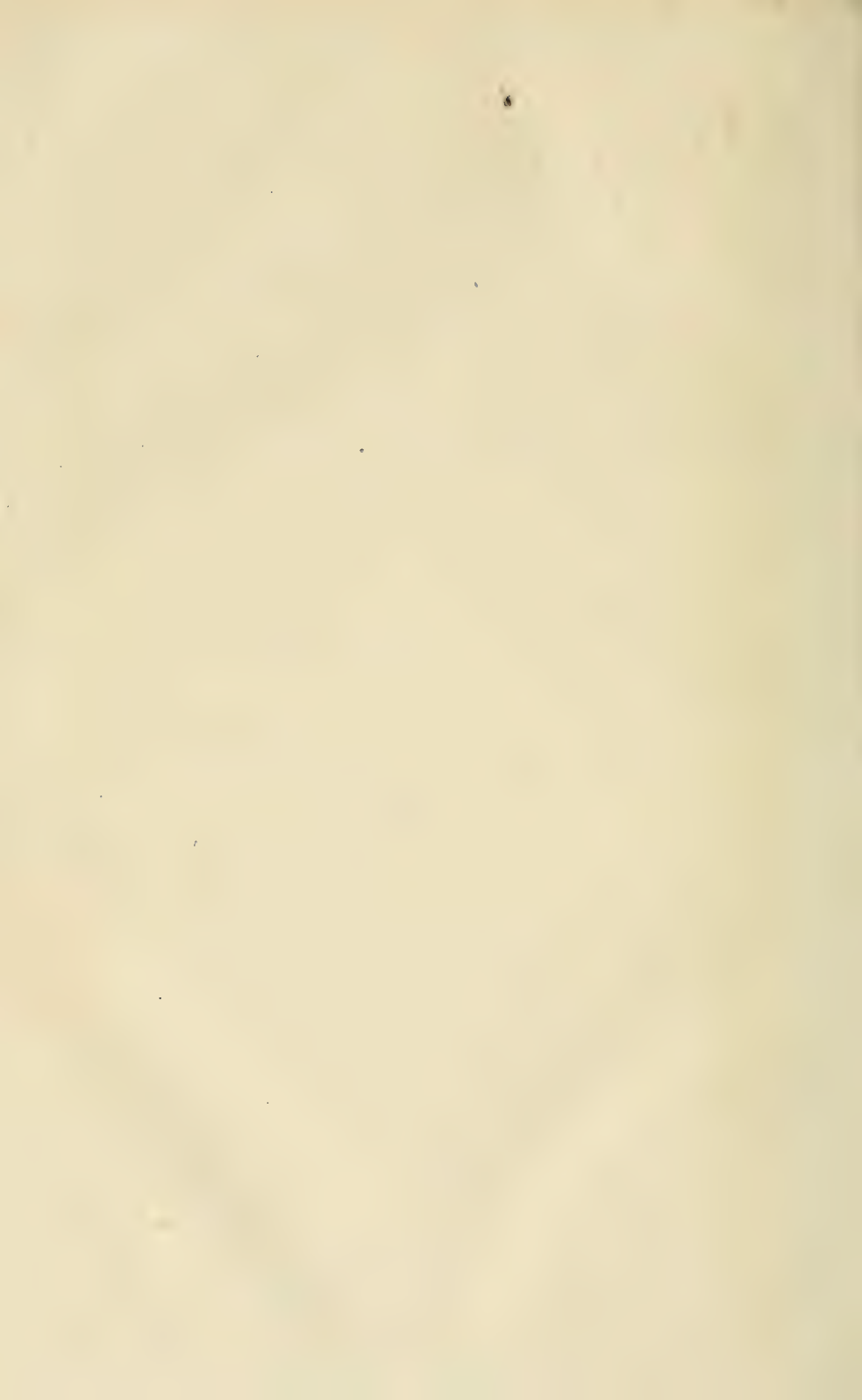
OF

THE AGRICULTURAL DEPARTMENT.

NOVEMBER AND DECEMBER,

1866.

WASHINGTON:
GOVERNMENT PRINTING OFFICE.
1866.



MONTHLY REPORT.

DEPARTMENT OF AGRICULTURE,

Washington, D. C., December 26, 1866.

In the present report for the months of November and December will be found a variety of interesting and important matter. Facts and suggestions concerning southern industry and resources will command the attention of political economists and business men of all sections of the country. However the political questions affecting the rehabilitation of this section may be settled, it is plainly the interest of every inhabitant of this broad land to utilize the hidden wealth and latent power of the fields and streams, mines and forests of half a continent. I am particularly anxious to do all in my power to secure the renovation of the worn and abandoned soils of that section of our agricultural domain. The work of the chemical laboratory, and its promised results, are indicated in a brief article. It is believed that much may be accomplished for the progress of agriculture by this instrumentality. A continuation of the history of cotton insects, by the entomologist, will excite attention, it is hoped, to renewed scientific and practical efforts to lessen the enormous losses to agriculture from insect depredations. One per cent. upon the cash value of cotton destroyed by insects the present year would far more than suffice to pay salaries to an entomologist and several assistants in every State in the Union. To be sure, such a corps of scientific men could not point out the means of totally preventing such ravages, but if the science of entomology is not an utter failure and deception, here is a field for improvement that might be occupied with eminent success.

Interesting statistics from foreign official sources, and from United States consuls in foreign lands, will be found to comprise new and valuable additions to the popular stock of statistical knowledge.

A final summary for the year is given of various farm crops, and, in particular, full and careful estimates of the products of corn and cotton.

In the next report will appear a full statement of the prices of the various kinds of agricultural labor in the several States and Territories, which will furnish material for study to the political economist and business men of this and European countries.

I. NEWTON,
Commissioner.

SOUTHERN INDUSTRY.

The natural resources of the South have never been developed. A small portion of the soil, and much of that portion actually among the poorer lands, has been brought under the plough, depleted by a wasteful system of culture, and either left to broom-sedge or pines, or cropped still at a great expenditure of labor for small returns. Some of it is too rich to be exhausted by surface working, and is still very productive. Even that which is abandoned is not exhausted; the culture received never went deep enough for that. But by far the greater portion of the richest and best lands that the South ever possessed is yet in primitive forest, awaiting the axe and the plough.

The mineral resources of this region are comparatively unknown. The whole Alleghany range is rich in iron, coal, gold, silver, lead, and many other minerals, with a great variety of earths valuable in the useful arts, petroleum, and the richest saline waters. These mines of wealth will not long remain hidden. What is true of a section of the original "Old Dominion," in the following extract, is becoming true of the entire mountain region of the south:

"The capitalist has discovered, with keen vision, the abundant coal, iron, petroleum, and other wealth thus hidden, *and the central location of the lands containing them*; he has planted his money in these hills, and has determined to reap a golden harvest. Present facilities for developing these resources will be improved and new ones created. New lines of railroads are already projected, and will be built, and the navigation of all rivers that are at any time navigable will be perfected."—(*Dodge's West Virginia.*)

The manufacturing facilities of the South are scarcely to be surpassed anywhere. Already it is understood that this interest, next to agriculture, is to become the most important in that section, and enterprises numerous, extensive, and various in character, are initiated and in progress.

It is beginning to be seen that a subdivision of farms and the better cultivation of improved lands, and a larger expenditure of capital in labor-saving implements, will result in greater personal and general wealth, and a higher degree of intelligence and culture.

The following paragraphs of the report of the Commissioner of Agriculture to the President, for the current year, are in point:

"In the reorganization of industry in these States it is believed that the great mistake of the past, the concentration of labor mainly upon a single branch of a single grand division of productive industry, will be avoided. This mistake has cost that section one-half the wealth it might have attained, and may have led to the sacrifice in war of a portion of the remainder. Excessive increase of a single product, tending to over-supply and reduction of price, and attended with heavy expenses for outward freights, and the purchase of all farm and family supplies burdened with cost of carriage and a long line of consuming commissions, points unerringly the way to national poverty and individual bankruptcy. A proper equilibrium of the products of industry, saving untold burdens of freightage, excessive profits and extortions of middle-men, insurance, breakage, and manifold losses, prevents reduction of prices from burdened markets, lightens damages from failures of single products, gives employment to all classes, conditions, and capacities of labor, insures remunerative wages for the workmen, renders possible necessary rotations and the production of farm manures, and increases the wealth, intelligence, and power of a State. In political economy the smaller products of a diversified industry are far more than an equivalent for a single result of organized labor, however absorbing or important. The cotton crop, for example, of the empire State of the South, in 1860, was 701,840 bales, yielding little more than \$30,000,000, while the butter of New York in 1865, one of several products of the dairy, was estimated at

\$60,000,000; and yet the census gives to New York but 370,914 farmers and farm laborers, and to Georgia, including white farmers and farm laborers, and only the males of the slaves, 316,478 persons engaged in agriculture. Besides the other dairy products, milk, cream, and cheese, and the multitude of smaller products of the farm, the principal crops make an astounding aggregate—as in 1864, when the corn crop of New York was estimated at \$38,000,000, the wheat at \$25,000,000, the oats at \$33,000,000, potatoes at \$19,000,000, and hay at \$90,000,000. Including the minor cereals, products of orchards and gardens, the production of beef and mutton from pasturage, and a great variety of miscellaneous and exceptional products, the currency value of the agricultural productions of this one State in that year was far greater than the money returns of any cotton crop ever produced in the country, and the gold value of such products would be more than equivalent to the gold value of half the cotton crop of 1860.

"It is evident that the diversification of farm industry, which secures these results in one location, must be applied to reorganized southern agriculture, with modifications such as climate and soil may indicate; and while cotton, as is hoped and believed, will ever be a prominent crop, and a sure reliance for immediate cash returns, it will never again overshadow and dwarf other interests essential to permanent success in agriculture. And it is also equally apparent that a portion of the labor of these States will eventually be diverted from agriculture and expended upon other departments of industry, especially manufactures; and that the day is not far distant when a portion of this cotton will be exported from the States in which it is grown in the form of yarns and coarse fabrics of various grades and styles. And such a day will bring surer prosperity and more abundant wealth than ever blessed those States in the past."

THE TIDE-WATER REGION OF VIRGINIA.

The "Old Dominion" had four distinct divisions of surface and soil, known as the "Tide-water," "Piedmont," "Great Valley," and what is now known as the State of West Virginia, though the State lines embrace a few counties in the lower or northern portion of the valley.

The former extends from the coast to the head of tide-water, or the lower falls of the several rivers entering the Chesapeake, including the cities of Fredericksburg and Richmond. Two counties, Accomac and Southampton, are a thin strip of level sandy soil, seventy-eight miles long and ten wide, lying between the Chesapeake bay and the Atlantic ocean.

The whole region is intersected by broad and deep navigable waters—bays, estuaries, and rivers—making a coast line of fifteen hundred miles. These waters are alive with fish, in great variety and excellent quality. The shad fisheries of the Potomac and other rivers are lucrative. A fine, fat herring is caught and cured in prodigious quantities, and constitutes an important and favorite, as well as cheap, item of food for the people of Maryland and Virginia, and of other States to a considerable extent. The distant West makes large demands upon the Potomac fisheries. The oysters of the lower waters towards the sea are famous for quality, size, and fatness, and supply a trade amounting to millions yearly, and extending north and west and to the territories of the Rocky mountains.

The soil is of diluvial formation, in many places underlaid with marl. Some of the bottom lands are of great fertility; the uplands a sandy loam, sometimes modified by clay, and occasionally of a gravelly character. For peaches and other fruits and for gardening it is remarkably well adapted, and is easily and cheaply fertilized by oyster-shell lime, marl, and grasses brought up by the tide.

The vicinity of Norfolk affords an illustration of the whole region as to its adaptedness to fruits and vegetables, showing a valuation of market-gardening products in 1860 of \$292,968 in one county.

Forests of pine and oak, interspersed with hickory, ash, and other varieties of trees, afford lumber and wood for various arts and for fuel, within easy transportation of the great markets of the country. In the thirty-eight counties of this district are no less than three millions of acres of unimproved lands, occupied by rapidly-growing forest trees—more than half the area of all its farm lands. The cash value of its farm lands in 1860, at the low official assessment, was \$77,906,005, an average of \$13 64 per acre. This is about half the average assessed valuation of the farm lands of Ohio, while their intrinsic value, from their peculiarly favorable and central location and means of cheap fertilization, is fully equal to that of the lands of Ohio. The following are some of the farm statistics of this region:

Statistics of the tide-water region of Virginia, from data furnished by the United States census of 1860.

Counties.	Acres of land.		No. of farms.	No. of farms over 500 acres.	Average acres per farm.	Cash value of farms.
	Improved in farms.	Unimproved in farms.				
Accomac.....	84,889	81,762	1,033	10	161	\$3,979,720 00
Alexandria.....	8,291	6,969	138	1	110	853,260 00
Charles City.....	50,267	48,190	199	20	494	1,239,410 00
Caroline.....	183,799	122,123	724	102	422	4,407,613 00
Chesterfield.....	106,999	154,973	782	42	335	3,263,370 00
Dinwiddie.....	118,440	169,086	581	50	494	2,643,250 00
Elizabeth City.....	17,534	13,905	156	5	201	1,273,050 00
Essex.....	96,415	60,707	418	57	375	2,439,173 00
Fairfax.....	84,690	115,916	852	12	235	3,866,075 00
Gloucester.....	58,708	53,418	384	22	292	2,001,234 00
Greenville.....	70,317	97,648	201	42	835	982,900 00
Hanover.....	141,205	218,120	786	66	457	4,203,120 00
Henrico.....	69,220	66,490	670	22	202	5,128,610 00
Isle of Wight.....	64,755	110,563	689	12	254	1,531,290 00
James City.....	25,003	52,715	149	7	521	1,011,340 00
King George.....	70,753	42,743	327	42	347	1,933,469 00
King and Queen.....	108,107	76,925	573	55	322	2,454,708 00
King William.....	99,674	64,239	544	41	301	2,568,250 00
Lancaster.....	34,925	33,742	326	6	225	1,307,441 00
Matthews.....	29,594	19,838	400	6	123	1,450,460 00
Middlesex.....	36,624	31,655	243	15	231	1,145,060 00
Nansemond.....	59,708	112,750	673	3	256	1,680,210 00
New Kent.....	46,310	66,965	330	13	343	1,331,275 00
Norfolk.....	47,985	81,794	666	4	194	2,140,252 00
Northampton.....	56,462	49,065	402	4	262	2,184,250 00
Northumberland.....	54,459	53,390	468	18	230	1,701,047 00
Prince George.....	63,777	83,809	351	19	420	1,947,415 00
Prince William.....	97,353	76,746	581	32	299	2,373,100 00
Princess Anne.....	57,612	75,140	755	2	175	1,860,486 00
Richmond.....	52,094	43,630	406	3	235	1,270,037 00
Southampton.....	131,963	163,708	639	59	470	1,615,065 00
Spottsylvania.....	116,007	117,059	602	57	387	2,394,424 00
Stafford.....	62,377	63,960	476	12	265	1,536,580 00
Surry.....	59,306	123,922	439	20	396	1,082,056 00
Sussex.....	126,088	134,426	562	72	463	1,601,905 00
Warwick.....	12,093	25,144	99	3	376	406,250 00
Westmoreland.....	76,100	55,415	379	42	347	1,931,680 00
York.....	28,030	39,697	311	8	217	1,167,320 00
Total.....	2,698,873	3,009,347	18,312	1,006	.....	77,906,005 00

THE EASTERN SHORE OF LAKE MICHIGAN.

The lake regions of the United States are becoming yearly more prominent in wine and fruit production. Their climatic superiority for such culture has long been manifest to scientific observers, and is now becoming successfully tested in practice. The following paragraphs relative to a section of the eastern shore of Lake Michigan are from a communication from Henry S. Clubb, secretary of the Grand Haven Horticultural Association:

The general character of the eastern shore of Lake Michigan, for from six to ten miles east of the lake, is sandy, and close to the lake the white sand is whirled into the most fantastic shapes by the lake storms, in some cases forming hills almost as white as snow, and running from two to four hundred feet above the level of the lake. These hills are partially covered with forest trees, consisting of pine, hemlock, beech, maple, and oak, with a small growth of cedar, and in the valleys black oak is occasionally to be found.

Most of these hills are full of roots (apparently growing from the solid ground beneath) of a wild grape-vine, which sometimes produces a small black grape, of no particular value where cultivated varieties can be obtained. The highest hills have a strong growth of these vines at their summits, and consequently the roots must in some cases be from 200 to 400 feet in length, keeping pace in their growth with the white sand on the hill.

Back from the sand-hills are numerous small lakes, or bayous, varying from one to six miles in extent, around which are sloping banks of sand, with here and there a substratum of white marl. In some of the small valleys there is an occasional swamp of black soil. This, however, is a scarce article in this sandy region, and such spots are held at high prices, being adapted for market-gardening or meadow-land. Around the small lakes, on the sloping banks, and on the table-land of only moderate elevation, the peach and the grape appear to have found their natural position, and lands which a few years ago would not sell at five dollars an acre now command from ten to fifty dollars per acre, and in close proximity to shipping ports much higher rates.

Corn is seldom grown here in large quantities, and neither wheat nor grass can be obtained, except on the rare spots above mentioned, in sufficient quantities to make their cultivation profitable. Rye and buckwheat are more successful.

The growth of peaches along this shore was, we believe, commenced at St. Joseph, Berrien county, about fifteen years ago, and the success of the experiment there has been the means of extending the peach culture along the lake shore as far as Manistée, and experience has shown that in some seasons, when St. Joseph fails to obtain a crop, the more northern localities succeed beyond all expectation. The season just past has shown this in a remarkable degree, and the theory explaining it is that while St. Joseph is so located that the prevailing wind, the southwest, only passes over a small portion of the lake, and that portion frozen, the wind from the same direction at Grand Haven, and north of here, sweeps over the surface of the unfrozen lake for a distance of one hundred miles, and is thus modified in its temperature. Our meteorological friends here record, in the severest winters, several degrees in favor of Grand Haven over the temperature of St. Joseph.

The Lake Shore Horticultural Association held an exhibition or fair last month, and to show what kinds of fruits are the most successful in this locality a brief report of the awards of the committee on fruits is given below.

Apples.—The premium for the largest variety of apples was taken by Judge Hathaway, of Nunica, a village east of the sandy lake shore region, so that this

locality will not claim any pre-eminence in the production of this fruit, although some fine apples were exhibited by our lake-shore growers.

Grapes.—The premium for the best pound of grapes was awarded to John W. Cook, esq., of Grand Haven, to whom belongs the credit of being the pioneer in fruit growing in this vicinity, which may be regarded as the centre of lake-shore fruit culture. Mr. Cook has not only proved the adaptability of this locality for peaches, but also for grapes. To the Delaware was awarded the first premium, the only grape which at that period, October 3, could claim to be agreeably ripe. September was this year unusually wet, and had the fair been held the latter end of the month instead of the beginning, grapes would have exhibited to much greater advantage, although it would have been too late for peaches. A bunch of the Hartford Prolific, exhibited by J. V. Hopkins, esq., of Mill Point, would have taken the second premium but for the lack of the requisite quantity; as it was, the premium was awarded to Hunter Savidge, esq., for a fine box of Concord. The Isabella, exhibited by the same amateur, was nearly equal to the Concord. The Catawba should be placed last on the list of grapes adapted to this locality.

The exhibition may be said to have placed the old established grapes for this section in the following order, the earliest being placed first: The Delaware, Hartford Prolific, Concord, Isabella, Clinton, Catawba. The most recent varieties, Iona, Israella, Diana, &c., not being on exhibition, cannot be said to have been fully tested in this locality. We have, however, seen at Mr. Cook's residence, in Grand Haven, a very fine specimen of the Diana, which shows that it is a good grape here, although its relative earliness will not, we think, place it higher in the list than the Concord or Isabella.

The premium for the best exhibition of grapes was awarded to Hunter Savidge, who, we believe, exhibited all the varieties in the above list. This gentleman, in connection with his partner, Dwight Cutler, esq., of Grand Haven, has a vineyard of about three-fourths of an acre on the south shore of Spring lake, with a decided inclination towards the north, and a blind fence on the west. For perfect neatness and trim we have never seen the equal of this model vineyard. Its trellises run north and south, and are about seven and a half feet in height. Not a blade of grass or a weed of any kind is visible among the vines, and the whole is raked as even as a newly made seed-bed. The production of this little vineyard four years after planting was about \$800 worth of grapes—one year ago. The yield this year has been fully equal in quantity, we believe, although the price is probably less, in consequence of the prevalence of the cholera in Chicago, the best market for this region of country.

There are numerous other vineyards in different stages of growth, and in another year the competition among lake-shore grape-growers will become quite sharp and interesting. Considerable tracts of land are being cleared for vineyards, and the eastern shore of Lake Michigan bids fair to rival, in a few years, the famous southern shore of Lake Erie. Grape-growers from Ohio have visited this locality and expressed the opinion that it is preferable to their own section, in consequence of the superior protection on the north side, which is furnished by a dense growth of evergreen timber. The fact that Lake Michigan never wholly freezes over, and that the prevailing winds are southwest, west, and northwest, gives this locality a decided advantage for grape culture.

Peaches.—The premiums for the best exhibition of peaches were taken by Mr. Lovell and Mr. Eames, the former of Mill Point, and the latter of Ferrysburg, a village on the opposite side of Spring lake. The early and late Crawfords and the Stump the World could not be excelled by anything we have ever seen from North Carolina, Delaware, or New Jersey, in the New York markets.

The shores of this little inland lake are becoming the favorite resort of fruit-growers. Peaches and grapes appear to grow here with equal success and profit. The peach orchard of Mr. Lovell is a model of its kind. It contains

about thirty acres, running parallel with and alongside of the Detroit and Milwaukee railroad. When this beautiful crop was on the trees this year, we understand Mr. Lovell was offered \$25,000 for the orchard, and that sum was refused. This orchard is on land which ten years ago was covered with a scrubby growth of oak and did not appear worth clearing; yet, we understand, but little manure has been applied. The trees are kept trimmed and free from worms, and the ground loosened by cultivation.

Mr. Reed, of Mill Point, exhibited a fine seedling which resembled the Crawford's Early, but which appeared sweeter to the taste and fully equal in size. It was named Reed's Imperial by the committee on miscellaneous productions. Several seedlings of fine quality were also exhibited by Mr. Eames, who had the largest variety of peaches on exhibition.

One of the finest, and, we believe, the oldest, orchards in this vicinity is that of Mr. Hezekiah Smith, situated on an arm of Spring lake, known as Smith's bayou. There are over twenty acres of apples and peaches. Mr. Smith has taken the premium several times at the county fair for the best peaches; this year the exhibition occurred between the perfection of his Early and Late Crawfords, being too late for the former and too early for the latter. We visited the orchard, and must say we have seldom witnessed trees in better condition. Mr. Smith being of African descent, only adds to the testimony so rapidly accumulating in late years of the ability of his race for attaining a high degree of civilization and refinement.

The method of packing grapes and peaches generally adopted here is to pack the former in boxes of half-inch planed pine board, containing about ten pounds to the box, while the peaches are placed in crates made of rough lath and holding about half a bushel.

The wages paid during the gathering and packing season were, for women, one dollar per day.

The prices realized this year for grapes were from $12\frac{1}{2}$ cents to 25 cents per pound, and for peaches from 50 cents to \$3 per crate—the former price for common seedlings, and the latter for the best Crawfords.

EGYPTIAN COTTON.

The common green-seed or upland cotton of the United States is undoubtedly superior to varieties from any other portion of the world, for the climate and soils in which it is grown; but there is a part of Texas where black-seed cottons of an intermediate type between the upland and sea-island are already grown to great advantage, and where experiments in the introduction of seed from other countries might be made with more than a possibility of remunerating success. Already three-fourths of the cotton of Florida is of black-seed varieties, of which the real sea-island constitutes but a very small proportion, raised by a score or more of planters. It may be, therefore, that the importation of Egyptian seed will prove of advantage to the country, despite the flippancy of overwise journalists. The following communication is from Edward Atkinson, esq., of Boston:

BOSTON, November 29, 1866.

SIR: I am informed that you have caused to be imported a considerable supply of the seed of the variety of cotton grown in Egypt, in accordance with a suggestion made by me some months since. I was induced to make this suggestion from the fact that notwithstanding the great increase in the production of Egyptian cotton, the price has rapidly advanced in comparison with our best New Orleans or Texas staple. Before the late war the crop of Egyptian cotton

was somewhat less than 150,000 bales, of 550 pounds each; in 1864-'65 the crop amounted to 440,000 bales, of 500 pounds each; in 1865-'66 the crop was reduced one-third to one-half by a very bad season and a murrain among the cattle; but the crop of 1866-'67, now coming to market, is estimated at from 500,000 to 600,000 bales. Yet, notwithstanding the increased supply, the price is now relatively much higher than that of New Orleans or Texas cotton, with which it used to keep about even, and sometimes sold for less. On the 20th of September last, the quotations in Liverpool for middling to middling fair New Orleans and Texas cotton were 14 to 16 pence, (28 to 32 cents in gold,) while the corresponding grades of Egyptian, called good fair to good, were $20\frac{1}{2}$ to $22\frac{1}{2}$ pence, (41 to 45 cents in gold,) and the fine quality, corresponding to our fair, was quoted at 26 pence, or 52 cents in gold.

The reason for this change in relative value is that during the scarcity of American cotton much attention has been given to the proper adaptation of machinery to other staples, and that during the last two years, the patent having expired upon the best combing machine yet invented abroad for combing worsted, its price has been reduced from £700 to £200 or less, and it has been adapted to the combing of cottons of the type of Egyptian and Brazilian, and also to combing our New Orleans and Texas cottons.

In this country a new comb has lately been invented or perfected for the same purpose, which is said to be cheaper and more effective than the best foreign machine.

It may here be stated, for the information of those not familiar with the subject, that worsted is simply wool from which the short fibre has been removed by combing; the residue or long fibre, being of almost absolutely uniform length, is of course capable of being spun into a much stronger and more even thread than can be spun from carded wool—the wools usually subjected to this process being those which have a lustre like those produced by the Cotswold and Leicester breeds of sheep.

The process of combing when applied to cotton removes all the short fibre which the common card would leave. The short fibre is used for the filling or weft of common fabric, and the long fibre, which in Egyptian cotton will range from one and one-fourth to two inches in length, is used for the spinning of thread and of warps, and for very fine fabrics. It is alleged that a single thread made from combed cotton is stronger than a double thread of the same size made from carded cotton. The cheapness and good quality of the warps thus made have greatly extended their use, and the fact is beginning to be appreciated that many flannels, worsted fabrics, broadcloths, &c., made from a cotton warp and wool filling are much better and more serviceable than goods of the same weight composed entirely of wool or worsted.

Having thus demonstrated the value of the Egyptian staple, it remains to be considered what this country should do in securing to itself the power to supply this or a similar variety, coming in as it does between our New Orleans green-seed and our sea-island, or black seed. I have therefore compiled such information upon the subject as I believe may be valuable, which must be taken for what it is worth, as I have never even seen a cotton field, and have no knowledge except such as I have derived from books.

Cotton, or the variety called Belledî, is indigenous in Egypt, but the variety now cultivated, called Tumel Maki, was first discovered by a Frenchman named Tumel, in 1819, growing in the garden of Maho Bey, in Cairo. Maho Bey had been the governor of Dongola or Sennaar, whence he is supposed to have brought the seed.

It is a black-seed variety, producing a staple from one to two inches in length, very strong, but not so fine as our sea-island variety. The fibre does not adhere to the seed, and it is easily ginned upon the Macarthy gin. The plant is much larger and more prolific than the sea-island, but whether it is more hardy or

not has yet to be proved. Mr. Joseph Gibbs, a most intelligent writer upon the subject,* states the yield to be, under Arab cultivation, nearly equal to that of American plantations, acre by acre, and this comparison is with our green-seed, not our sea-island plantations. And what Arab cultivation was may be inferred from the following statements: "At present all the cultivation is similar to that practiced in the time of the Pharaohs, except upon the model farms belonging to the Pacha. It may be said that in Egypt there are no ploughs, properly so understood, except such as were used in the time of the Pharaohs, and which consist of a great beam of wood with one upright handle, and a wooden shoe to tear up the ground, which is only done in alternate furrows, leaving one-half altogether unploughed." If such a crop—that is, a crop equal in quantity to ours, acre per acre—could be produced in 1862 by such cultivation, it will be well worth while to make the experiment with this seed upon our bottom lands, and with better methods. Although a black-seed variety, and similar in many respects to our sea-island, it does not seem to require, like that, the saline manures or the conditions of climate found upon our coast islands. On the contrary, some of the very best cotton is raised upon plantations in Upper Egypt cultivated by irrigation.

Since Mr. Gibbs wrote upon the subject a great improvement has taken place in the cultivation, partly under the direction of the Pacha, who is, probably, the largest and most successful cultivator of cotton in the world, but to a greater extent from the introduction of a large amount of European capital, the use of steam-ploughing, and of better methods of irrigation.

In a report made in 1863 by Mr. Wm. S. Thayer, our former consul, I find the method of cultivation stated as follows:

"In planting, the method found by experience to be the best is to sow the cotton every year and to rotate the crops. The ploughing begins very early in the spring; about the middle of March the land is irrigated, and after it becomes sufficiently dry it is tilled, and sown early in May. On some estates the land is tilled four times before and four times after irrigation; the plants are watered as many as four times during their growth, and are weeded every thirty days. As a rule, but not invariably, manure is not used, the Nile being the sole fertilizer. Three cantars (the cantar is $100\frac{8}{10}$ pounds) are a fair average yield per acre, but sometimes six, seven, and even eight are attained."

This statement gives product of clean cotton.

In 1841 the average net income of an Arab laborer was about two and a half pence, or five cents per diem; but owing to the great stimulus arising from the increased price of cotton, wages have risen, and, as nearly as I can ascertain from Mr. Thayer's statements, amounted in 1863 to twenty to twenty-five cents per day in gold.

Mr. Thayer gives a statement of the cost of raising cotton as follows:

"I subjoin here what I have reason to believe a statement of the exact cost of cultivating a single acre with cotton. It is furnished me by a successful planter at Mansanah, in Lower Egypt, but the items are upon a scale of expense considerably larger than is necessary in some of the other districts:

Land tax, or rent paid to government.....	110	piastres.
Ploughing.....	50	"
Irrigation.....	60	"
Seed.....	20	"
Hoeing.....	100	"
Picking.....	100	"
Ginning.....	40	"

480

equal to twenty-four dollars in gold. As an acre of land in Mansannah yields an average of four cantars, about 400 pounds, the expense of raising one cantar, according to the foregoing statement, will amount to six dollars, or six cents per pound."

The question whether Egyptian cotton will maintain its quality and its full product per acre when cultivated in this country, can only be decided by actual trial. It depends upon many conditions other than the chemical constituents of the soil, but these may be some guide. As is well known, the fibre of the cotton plant contains a very small proportion of inorganic matter derived from the soil, say about 10 pounds to a bale of 450 or 500 pounds; the removal of the fibre is therefore of little consequence, and is not exhaustive. The seed, however, which in Egypt bears about the same proportion to the fibre as in this country, viz., about three to one, draws very largely upon the soil, the chemical ingredients supplied from the soil being about four per cent. of the weight in this country, and I suppose elsewhere, consisting mainly of phosphate of lime and phosphate of potassa. Thus, for every 500 pounds of cotton fibre there are 1,500 pounds of seed, and four per cent., or 60 pounds of the seed, consists of inorganic matter furnished by the soil; of this 60 pounds 37 are phosphate of lime, and 19 phosphate of potassa.

So far as I can find the data for comparing the chemical constituents of the soil, our cane-brake and river bottom lands are richer in phosphates than the Nile mud.

The value of cotton seed for the production of oil and cake for feeding cattle is so well understood in Egypt as to cause it to bear a higher price per bushel than wheat, and if some action is not taken for utilizing the seed of cotton raised upon our uplands in a better manner than heretofore, it is quite evident that upland must soon become exhausted under cotton cultivation; our bottom lands are doubtless inexhaustible.

I hope that especial pains will be taken to test the value of Egyptian cotton in Texas. The very finest specimen of cotton I have ever seen was raised from Egyptian seed upon the coast of Texas. A large portion of Western Texas has a climate more like that of Egypt than any other section of this country, being comparatively free from rain, yet possessing a fine moist soil, kept in good condition by the rivers and springs flowing from the far interior mountains.

As very many of our best varieties of green-seed cotton have been produced from seed imported from Mexico, it may be that we shall now add a valuable long-stapled, black-seed variety for cultivation in the interior by this importation from Egypt. I hope you will next year import some black seed from Brazil and from the high lands of Peru.

E. A.

HON. ISAAC NEWTON.

THE DEPARTMENT LABORATORY.

The chemical laboratory of this department, now in charge of Dr. Thomas Antisell, is in working order, and in order to make it more extensively useful and available for the advancement of agriculture the following outline of the nature of the objects which it is hoped to accomplish by its assistance is appended.

WORK PERFORMED IN THE LABORATORY.

The prosecution of extended and trustworthy researches in various subjects connected with agricultural chemistry, such as—

1. The determination of the food or manufacturing value of substances of

vegetable growth useful as esculents or articles of manufacture. Under this head may be classed the chemical examination of those new plants or seeds which have proved serviceable to man abroad, and which have been imported or grown for experiment in the gardens of the department.

2. The examination of certain conditions of agricultural growth which are still matters of doubt or of difference of opinion; *e. g.*, the determination of the most proper time for obtaining sugar from the sorgho plant; the most economical method of separating its sugars; the consideration of the value of the beet as a substitute for the cane or other sugar-producing plant; and the exact relation of climate, soil, and period of growth with the amount of sugar in the sap.

These examinations will generally be carried out upon plants or raw products raised by the department, which will thus act as a pioneer in recommending, after rigid investigation, to the agriculturists of the country the cultivation and introduction of new substances, products, and plants.

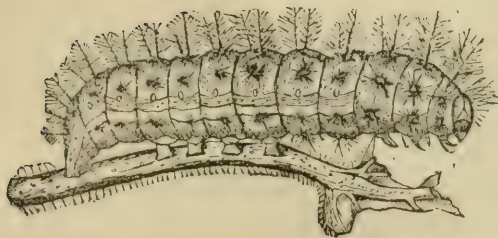
3. The examination of certain growing crops of value in all sections, with a view to determine the value of various manures at certain periods of growth of the plant. This line of investigation is now much cultivated in the agricultural laboratories of Europe, but there is ample room for similar researches in the United States.

4. The examination of any newly discovered minerals, marls, mineral waters, peat beds, or other substances which may be of importance to the agricultural community. Farmers, planters, and others can have such substances examined in the laboratory of the department upon forwarding samples. As the department was established for the benefit of the whole community, the chemical report of such investigations will be made public through the monthly or yearly reports, whenever it is believed that the information resulting from the examination will be serviceable to the interests of agriculture.

INSECTS INJURIOUS TO COTTON PLANTS.—NO. 5.

HYPERCHIRIA VARIA. *Packard Pr. Ent. Soc., Phil., vol. 3, p. 384.*

Saturnia io. *Harris, 395.*
Corn Emperor moth, or Io Emperor.



The foliage of the cotton-plant is also eaten by the caterpillar of a large moth. This spiny and stinging caterpillar is often found upon the leaf of cotton in September; it feeds likewise upon the blades of Indian corn, and the leaves of the willow, balsam-poplar, dogwood, and many other trees.

Whenever one of them is found in a field, the plants attacked by it may be easily distinguished by their leafless appearance in the midst of the otherwise green and flourishing vegetation, as it rarely quits a plant before it is completely denuded. Often, however, those which have lost their leaves from the rust present much the same blighted appearance; but in this case the numerous yellow, withered leaves, which are scattered on the ground, at once indicate the disease.

The thorny spines with which these caterpillars are armed have a peculiarly poisonous property, and are capable of inflicting painful and severe wounds, similar to the sting of a wasp. It is therefore necessary, if the insects require to be touched, to use a stick or branch when removing them from the plants on which they feed.

These caterpillars cannot be classed among those very injurious to cotton, as they do not appear to be sufficiently numerous to effect much damage. Very few complaints have been made about them by the planters either of Georgia or South Carolina; in the year 1855, the same caterpillar was found very abundant in the cotton-fields near Tallahassee, but the damage done by them was trifling.

Mr. Newman, of Philadelphia, who has paid much attention to the breeding of caterpillars, states that this insect is found on the willow. Dr. Harris says they are also found upon the balsam-poplar and elm in Massachusetts; and, according to Smith and Abbot, in their "Insects of Georgia," it is found on the dogwood, sassafras, and Indian corn, which are devoured by them. I have also found them on the oak and locust.

The caterpillar is from two inches and a quarter to two inches and three-quarters in length; but, as Dr. Harris has minutely described it, I will quote his own words:

"The caterpillars are of a pea-green color, with a broad brown stripe, edged below with white, on each side of the body, beginning on the fourth segment and ending at the tail. They are covered with spreading clusters of green prickles, tipped with black, and of a uniform length. Each of these clusters consists of about thirty prickles, branching from a common centre, and there are six clusters on each of the rings, except the last two, on which there are only five, and on the first four rings, on each of which there is an additional cluster low down on each side. The feet are brown, and there is a triangular brown spot on the under-side of each ring, beginning at the fourth." The brown stripe mentioned by Dr. Harris is often of a reddish-brown, and in high-colored and healthy individuals I have seen it almost of a carmine red.

The caterpillars are gregarious when young; but when older they are solitary. When fully grown, they form a brownish cocoon of a gummy substance among the leaves, resembling parchment. The perfect moth comes out the following spring. There are two broods of these insects in a season in the southern States; and I have observed the caterpillars on cotton as late as the month of September.

The chrysalis is brown, and of a short, thick form, with a number of hooked bristles on the tail.

The following is Dr. Harris's description of the moths: "They sit with their wings closed and covering the body like a low roof, the front edge of the under-wings extending a little beyond that of the upper-wings and curving upwards. The sexes differ both in color and size: the male, which is the smallest, is of a deep or Indian-yellow color; on its fore-wings there are two oblique, wavy lines towards the hind margin, a zigzag line near the base, and several spots so arranged on the middle as to form the letters A H, all of a purplish-red color. The hind-wings are broadly bordered with purplish-red, next to the body, and near the hinder margin there is a narrow curved band of the same color. Within this band there is a curved, black line, and on the middle of the wing a large, round, blue spot, having a broad, black border and a central

white dash. The fore-wings of the female are of a purplish-brown, mingled with gray; the zigzag and wavy lines across them are also gray, and the lettered space in the middle is replaced by a brown spot surrounded by an irregular gray line. The hind-wings resemble those of the male in color and markings; the thorax and legs are purplish-brown, and the abdomen is ochry yellow, with a narrow, purplish-red band on the edge of each wing. These moths expand from two inches and three-quarters to three inches and a half."

The only method that can be taken to destroy these insects would be to kill the moths when and wherever found, and to strike the caterpillars from the plants and then crush them under foot. Although they cannot properly be classed among the insects very injurious to cotton, not being sufficiently numerous to do much harm, yet, if left undisturbed, they may so increase as to become a nuisance to the planter both of cotton and corn.

THYRIDOPTERYX EPHEMERÆFORMIS. (*Stephens.*)

Drop or Basket worm.



The drop-worm, as it is commonly called, is occasionally found upon the cotton leaf, but generally infests the arbor-vitæ, larch, and hemlock-spruce. It is also found upon almost all of the deciduous trees, such as the linden and maple. Dr. Harris states that the female worm never quits her case, but lays her eggs in the skin of the chrysalis, in which she herself also remains until the eggs are all deposited, when she closes the end with down, and crawls out of the case and dies. These eggs being hatched, the young worms, after they are hatched, make little silken cocoons, open at both ends, and are covered with fragments of leaves, twigs, &c., in which they conceal themselves, and drag them about wherever they move. These cases are enlarged as the insects increase in size, and are still carried about by the worms. When they move from

branch to branch devouring the foliage, they protrude their heads, the first three segments of the body, and six legs, from one end of the case; but when the insects wish to rest, each case is fastened by a few threads to the leaf or branch, and they retreat within. When shaken from the tree by an accident or by high winds, the worms are able to suspend themselves by means of small threads, and hang in the air; hence the name. When young, they are often blown from tree to tree, and thus carried to a considerable distance from the place where they were hatched.

The males and their cases are much smaller than those of the females, the worm being only about an inch in length. The first three segments of the body are whitish, marked with black lines and spots; the segments where they join are brownish; the head is marked with wavy lines of black on a white ground; the rest of the body is of a dirty, blackish-green. It has six pectoral feet, by means of which it moves from leaf to leaf, with its body and case, the latter either perpendicularly suspended in the air or dragged by the worm from behind. There are eight very small ventral and two anal feet, by means of which it clings to the inside of the case. The chrysalis measures about three-quarters of an inch in length, and contains the rudiments of wings, legs, head, and antennæ, like other moths, and is of a dark brown. The perfect moth

comes out in autumn, and measures across the expanded wings about an inch and three-twentieths. Its body is downy, and of a blackish-brown; the wings are semi-transparent, and scantily clothed with blackish scales, which are blackest on the margins and veins; the antennæ are covered at their tips, and are doubly feathered from the base to beyond the middle. The female is much larger than the male, and never leaves her case, but changes into the perfect insect in the shell of the chrysalis, and only emerges from it when the eggs are laid within. The young, after leaving their maternal case, in the spring, immediately commence their cases, and spread over the native tree or any others that may happen to stand near.

These insects are a great nuisance wherever they once get established, as they are exceedingly prolific. One female chrysalis case which was dissected contained seven hundred and ninety eggs, while others have been found to contain nearly a thousand.

These pests are very rarely seen on the cotton plant; and even when such is the case, they may have been blown there from the cedars, maples, or other deciduous-leaved trees in the woods on the edges of the plantations. They are the more particularly mentioned here, from the fact that, if taken in time, they may easily be exterminated on deciduous shade-trees; for, as before stated, the female cases contain all the eggs, and may be seen in winter hanging on the branches when the leaves have fallen. It would therefore require but little trouble to pull them off in the autumn or winter, and burn them, so that neither males nor females could escape. If this course were pursued two or three years in succession, there would not be so many complaints in our cities about the drop-worms destroying the foliage of the trees.

The *Geeticus coniferum* of Harris, which is said to be found in the middle States, resembles this insect so much in appearance, transformation, and habits, that it is somewhat doubtful whether it is a distinct species, or a mere local variety. The drop or basket worm so common in Maryland corresponds, however, with the specimens named *Thyridoptery ephemeræformis* of Stephens in the cabinet of the British Museum.

WINE IN NEW MEXICO.

Dr. Henry Hilgert, assistant assessor at Los Lunas, New Mexico, writes as follows:

"I beg to direct your attention to the excellent soil and climate of this country for grape culture; any capital brought here and invested in the product of wine is sure to pay high interest. The manufacture of wine from the grape is mainly the same as described in the highly creditable report of Major W. H. Emory, on the Mexican boundary, vol. 1, page 49, with the exception that several years since a few Americans, Germans, and Frenchmen commenced making excellent wines of grapes, which they annually buy from Mexican vineyard owners or from the Indians of the pueblo of Isletta.

"The wines manufactured by these persons compete with the best products of European wine-makers. The greatest difficulty encountered in the sale of wines is the scarcity of means of sending to market; but as soon as the Pacific railroad is completed as far as New Mexico, there can be no doubt that New Mexican wines will bring the highest prices in the United States markets."

In the public document above referred to, Major Emory alludes to El Paso (latitude $31^{\circ} 44'$, longitude $106^{\circ} 29'$) as one of the garden-spots of the interior of the continent. The following statements are extracted from his report:

"Whatever population may now, or hereafter, occupy the mountain system,

and the plains to the east, must be dependent on mining or grazing, or the cultivation of the grape. The country must be settled by a mining and pastoral or wine-making population; and the whole legislation of Congress, directed heretofore so successfully towards the settlement of lands east of the 100th meridian of longitude, must be remodelled and reorganized to suit the new phase which life must assume under conditions so different from those to which we are accustomed.

"Southern California, the whole of the upper valley of the Gila, and the upper valley of the del Norte as far down as the Presidio del Norte, are eminently adapted to the cultivation of the grape. In no part of the world does this luscious fruit flourish with greater luxuriance than in these regions, when properly cultivated. Those versed in the cultivation of the vine represent that all the conditions of soil, humidity, and temperature are united in these regions to produce the grape in the greatest perfection. The soil, composed of the disintegrated matter of the older rocks and volcanic ashes, is light, porous, and rich. The frosts in winter are just sufficiently severe to destroy the insects without injuring the plant and the rain seldom falls in the season when the plant is flowering, or when the fruit is coming to maturity and liable to rot from exposure to humidity. As a consequence of this condition of things, the fruit, when ripe, has a thin skin, scarcely any pulp, and is devoid of the musky taste usual with American grapes.

"The manufacture of wine from this grape is still in a crude state; although wine has been made for upwards of a century in El Paso, and is a very considerable article of commerce, no one of sufficient intelligence and capital to do justice to the magnificent fruit of the country has yet undertaken its manufacture. As at present made, there is no system followed, no ingenuity in mechanical contrivance practiced, and none of those facilities exist which are usual and necessary in the manufacture of wine on a large scale; indeed, there seems to be no great desire, beyond that of producing as much alcoholic matter as possible. The demand for strong alcoholic drinks has much increased with the advent of the Americans; and in proportion as this demand has increased, the wine has decreased in quality. On one occasion I drank wine in El Paso which compared favorably with the richest Burgundy. The production of this wine must have been purely accidental, for other wine, made of the same grape and grown in the same year, was scarcely fit to drink. Cotton and corn grow with luxuriance, where water can be brought to irrigate the soil, throughout the valleys of the Gila and Rio Bravo, and upon the lower Rio Bravo; and upon the Rio Colorado, below its junction with the Gila, sugar cane flourishes."

IMPORTATIONS OF CLOTHING MATERIAL.

The importations of the year have been enormous, and are reasonable cause for alarm, with reference to the future value and profits of labor. The month of November, it is true, has shown an import of smaller magnitude than November of last year, which was excessive. The manufactures of wool, cotton, and flax used in the United States should be produced within the United States, almost without exception; and those of silk should eventually be added. If the same rate of importation shall be continued, the accumulating surplus of foreign goods burdening the counters of country traders, from the St. John's to the Rio Grande, will displace almost entirely the products of native wool. We are now producing three-fourths of all the wool we need. Excepting carpet and combing wools there is no occasion for introducing a single ounce of foreign wool. We can easily produce all the clothing wool needed or to be

needed for a generation, with double or quadruple our present population; but if the amount required for consumption shall be allowed to come in from abroad, it is very plain that the home production will decline.

The imports at New York city alone, of three successive Novembers, are as follows:

	1864.	1865.	1866.
Manufactures of wool.....	\$619, 586	\$885, 896	\$1, 205, 661
Manufactures of cotton	135, 402	815, 253	447, 210
Manufactures of silk	176, 438	588, 726	655, 221
Manufactures of flax	186, 862	533, 740	985, 066
Miscellaneous dry goods	87, 824	27, 775	177, 539
Total entered for warehousing	1, 206, 112	2, 851, 390	3, 470, 697
Add entered for consumption	1, 028, 995	9, 836, 557	3, 788, 539
Total entered at the port.....	2, 235, 107	12, 687, 947	7, 259, 236

But the figures for eleven months of the past three years, according to unofficial statements of the New York custom-house entries, are still more significant. It will be seen that the excess of the present year over figures for eleven months of 1864 amounts to more than fifty millions, and thirty-nine millions more than for the same period of 1865:

	1864.	1865.	1866.
Manufactures of wool.....	\$14, 272, 965	\$7, 409, 031	\$18, 628, 967
Manufactures of cotton	2, 968, 246	2, 571, 890	5, 830, 758
Manufactures of silk	5, 049, 151	3, 827, 228	7, 940, 323
Manufactures of flax	4, 326, 404	3, 346, 425	6, 816, 520
Miscellaneous dry goods	1, 114, 712	502, 151	1, 500, 542
Total entered for warehousing..	27, 731, 478	17, 656, 725	40, 717, 110
Add entered for consumption ..	42, 299, 707	63, 729, 422	79, 516, 014
Total entered at the port....	70, 031, 185	81, 386, 147	120, 233, 124

THE ISABELLA GRAPE IN SOUTH AMERICA.

In the vicinity of Rio Grande, in Brazil, about 33° south latitude, wine from the "American" grape (which is said to be our Isabella, cultivated for many years in its South American home, and improved by its acclimation) has been manufactured very extensively, especially within two or three years past.

The United States consul at Rio Grande, Aaron Young, esq., has communicated to this department some interesting facts relative to the success of the Isabella grape in Brazil. He refers also to the experience of a Brazilian naturalist, Fred. Albuquerque, who has experimented with many varieties of European grapes, some of them from France, and has arrived at the conclusion that grapes from the United States are decidedly preferable for that climate. The Isabella, he declares, is so extraordinarily productive that the cultivation of other varieties has been abandoned. It does not appear that the most popular varieties of this country have been tested there, and the experimenter above mentioned has applied to this department for a few kinds most approved here for table use and for wine, especially the Catawba, Clinton, Hartford Prolific, Dracut Amber,

Delaware, &c. The wine from the Isabella, it is declared, is well received and favorably noticed by connoisseurs, and an interest is awakened for progress and improvement in this new industry which will not permit wine-makers to rest satisfied either with the quality or quantity of product. Mr. Young writes as follows :

"Some twenty-five or thirty years ago, as nearly as I can understand, between the years 1835 and 1840, the idea appears to have occurred to an American gentleman, Mr. Thomas Messiter, then residing in this province, that the culture of the grape for the manufacture of a native wine might be attended with considerable pecuniary advantages to any one possessed of sufficient energy to engage in it, the climate, in his judgment, possessing to a degree the requisites for the successful growth of the vine, and in many respects bearing a close resemblance to that of Georgia. Following out this idea, about the time above mentioned, he succeeded in procuring from the United States a few slips or cuttings of the Isabella grape, and, planting them in his garden, watched with much assiduity and interest their progress towards maturity. But a brief period was required to prove fully to him that the climate not only admitted of its culture, but that its qualities as to fruit-bearing, &c., had vastly increased and improved, the flavor of the specimens taken from his plantations being much superior to that of the same grape produced by the vines of the United States.

"Priding himself on the success attending his experiment, he refused to listen to any of the numerous overtures made to him from neighbors and friends, or the equally numerous offers of purchase for cuttings, from his vines ; and although I cannot state positively whether he now endeavored to carry out what was no doubt his original intention, viz., the manufacture of wine, yet it is certain that he derived considerable benefit from the sale of the fruit, and many amusing anecdotes are extant and related of the tenacity with which he endeavored to retain the cultivation in his own possession, even going the length, it is said, of placing his servants as guards over the place of their cultivation, lest cuttings might be obtained notwithstanding his dissent. Finally, however, some of these cuttings found their way into other plantations than his own, and gradually may be said to have overspread the whole province, affording a delicious fruit at so cheap a rate as to be within the reach of the poorest, and at the same time giving rise to a new and well-remunerated employment in the manufacturing of the native wine. *En passant*, I may say that some samples of this wine which have come under my notice appear to quite equal, if not to excel, some of the highly-priced wines sold as Bordeaux. So prolific have been those few slips introduced by Mr. Messiter, and to such an extent have they reproduced themselves, that grapes may be had here in the market during the season for about a cent a pound, and a small German colony, known as the colony of Leopold, numbering 15,000 to 20,000 inhabitants, has manufactured as much as 500 pipes of this native wine during the last year.

"Another thing may be observed as worthy of remark in the growth of the vine here ; that is, the enormous size some of its main trunks attain. I think I do not exaggerate in placing the circumference of some I have seen at fifteen to twenty inches.

"It is to me an interesting question, whether slips from the improved vine here would not improve the Isabella in the States ; for most certainly no such fruit for deliciousness is known there."

The consul promises to give some facts concerning the *mandioca* or *farinha*, and the *erva mati*, and reports a prolific yield of tobacco in that province ; one little German settlement, Santa Cruz, producing four million pounds, worth a quarter of a million of dollars.

TRICHINÆ IN PORK.

A letter to this department from Charles J. Sundell, consul at Stettin, in Prussia, announces the scourging of another locality by the fatal effects of introducing pork infested with these parasites into the human system. It also notices the recent terrible ravages of cholera in Stettin, by which 2,118 died of 3,416 attacks, among a population of 80,000. The following extracts are made :

"About that most dreadful disease in swine called trichinæ, nothing further was heard here since the Hadersleben calamity in January and February last, until recently ; the reappearance of said malady is now being reported from the city of Greifswald, in this province. The meat of one single animal, and that not wholly used, as some remaining parts thereof were confiscated as soon as its infection was discovered, seems to have been enough to infest with these parasites over sixty persons, and among these some of the best men there. The sufferings from this shocking intrusion into the system is said to be attended with most distressing agonies, and it is feared that many of those affected will pay with their lives for yielding to that peculiar taste for raw, chopped, or insufficiently cooked and smoked meat, so prevalent in this country. It is stated that those who had partaken of sausages prepared fresh from the infected meat, and only superficially smoked, are subject to worse pains than those who had eaten cutlets and other dishes insufficiently cooked. It follows therefrom that the greater the heat to which such meats are subjected the surer will the parasites therein be made harmless, and this is a simple fact which cannot be too strongly impressed upon the mind in a country like ours, where pork is so extensively eaten. It is also contended that by cutlets it is hardly possible to have the heat penetrate the meat sufficiently without burning some portion of the chops. The simple remedy would be to prepare cutlets without bones, and so with all other dishes from swine's meat.

"The scientific commission of the medical faculty in Prussia gave as their decision, under date of the 14th of February last, that microscopical examinations of certain (enumerated) parts of the swine would be the surest way to prevent these fearful diseases. The government has, therefore, now recommended microscopic meat inspections, and that much care be taken in thoroughly cooking and preparing, but such examinations have not been made obligatory. This advice, as the Greifswald calamity proves anew, is discreet and well meant, but butchers and meat sellers here seem to care little about it, and it is now publicly proposed that those who sell trichinous meat be made responsible for the consequences. Thus it will be seen that the people here are in earnest to guard, if possible, against the recurrence of this late discovered ill that human flesh is heir to."

ITEMS OF FRENCH INDUSTRY.

The following facts of agriculture are given upon authority of M. Weyhe, a French writer upon national economy, from original translations :

TEASELS.—French teasels, generally cultivated in the vicinity of Avignon, are becoming an important article of commerce, they being considered by manufacturers of cloth as three times as durable as those raised in Germany, attributable to the peculiar fitness of the soil from which they grow.

MADDER—The madder grown in the department of Vaucluse is of such excellent quality as to be generally preferred to the Silesian, Dutch, or eastern product. The cultivation of this coloring plant is also carried on to considerable extent in Alsatia, being disposed of for coloring cloth for the French army.

Present prices are low, owing to the decrease of the manufactory of colored cotton goods.

TOBACCO.—In consequence of the monopoly of tobacco production in France, its cultivation is carried on under great difficulties and to a limited extent in many districts, being controlled entirely by the revenue interests of the government. The receipts of the latter from this source are constantly on the increase, advancing from 79,499,379 francs in 1846, to 200,000,000 francs in 1864. It is a fact derived from observations of the revenue officers that the consumption of tobacco increases in about the same ratio with that of beer.

CATTLE.—The production of cattle in France has considerably increased within the past few years, caused mostly by the large importation of cattle from England, particularly of the short-horned breeds.

POULTRY AND EGGS.—The production of poultry and eggs is also carried on extensively. The total value of such products for the year 1852 is estimated at 44,000,000 francs, now increased to about 55,000,000 francs. The city of Paris, in 1852, consumed poultry and game to the amount of 15,000,000 francs, and in 1863 the figures had advanced to 21,000,000 francs. In looking back we find that in 1789 but eight pounds of poultry and game to each person were consumed, while in 1864 the amount had increased to thirty pounds. The adjoining countries, England in particular, import large quantities of fattened poultry from France. The best poultry is furnished from the vicinity of Bresse, and fattened poulards (capons) bring about forty francs. In 1864 England imported 277,000,000 of eggs, of which France furnished three fourths. Eggs are not only used for food, however, but from them the albumen is extracted to mix with colors in calico-printing manufactories. The consumption of this article in Alsatia is about 250,000 pounds a year, at a cost of \$280,000. It takes the white of 132 eggs to make one pound of albumen. The Industrial Society of Muhlhausen has offered a prize of \$4,600 for the discovery of a substitute for albumen, not valuable for the subsistence of human beings, and not derived from the blood or spawn of fishes, the albumen from which is injurious to colors.

SPIRITS.—The progress of the manufacture of spirits in Germany is rapidly increasing, and it is claimed that Prussian spirits command a higher price, in consequence of their fine flavor, than those manufactured in France or England. A very fine article of spirits is being produced from potatoes, containing from 93 to 95 per cent. It is made so clear that by mixing it with other fluids not the least disagreeable flavor can be detected; hence German spirits are now generally used for adulterating purposes, being considered the best article produced.

WINE.—The wine production of France in 1864 was above the average in most of the departments; barrels became scarce, and one hectolitre (22 gallons) of good table wine could be bought for eight or ten francs. The whole crop was estimated at from 800,000,000 to 900,000,000 francs, about one-fifth of which was distilled for Cognac and Armagnac. The export of liquors to England in 1862 reached 8,213,723 gallons, and from January 1, 1864, to August 1, of the same year, seven months, amounted to 11,086,580 gallons. France has about 9,000,000 acres of land under wine culture. In but ten of the eighty-six departments is there no wine produced. The largest yield is made in the departments of Gironde and Charente.

SILK CULTURE.—The production of silk is of great importance in the south-easterly part of France, where, it is claimed, the best quality known is made, the soil and management operating together in uniformity, and nature asserting the old rule, that as a plant reflects the quality of the soil, so will all products of the animal which receives nourishment therefrom. The precious textures and the splendid white satins from Lyons, in demand from all quarters of the globe, are manufactured mostly from French silks, the inferior kinds only being made of foreign production. The silk-worm disease has served to discourage the silk manufacturers to a considerable extent, and to obviate the difficulty cocoons

have been imported from various parts of the world. Those brought from Japan have proved to be the best, while the varieties received from Wallachia were the poorest.

FARM STOCK OF SWITZERLAND.

The United States consul at Basle, in Switzerland, A. L. Wolff, esq., seeing no statement concerning the stock of Switzerland in the estimates of the farm stock of European states, published in a recent number of these reports, sends the following exhibit of such property in the only republican state of Europe, as reported by the statistical bureau of that country April 21, 1866.

The totals, representing 205,400,000 francs, are as follows :

		Francs.
Horses and mules.....	105,663, estimated at.....	26, 400, 000
Cattle.....	991,722, estimated at.....	158, 700, 000
Sheep.....	445,514, estimated at.....	6, 700, 000
Swine.....	306,062, estimated at.....	9, 100, 000
Goats.....	276,020, estimated at.....	4, 500, 000

The following table is an exhibit of farm stock of the several cantons :

Cantons.	Horses.	Mules.	Cattle.	Swine.	Sheep.	Goats.
Zurich.....	4, 779	9	70, 199	23, 335	2, 110	16, 472
Berne.....	29, 212	137	195, 466	61, 717	104, 189	75, 886
Luzerne.....	4, 838	9	65, 198	35, 690	15, 359	15, 461
Uri.....	426	1	11, 088	1, 531	12, 866	13, 133
Schwyz.....	1, 267	3	23, 102	3, 978	11, 495	8, 928
Obwalden.....	433	-----	8, 988	2, 881	3, 906	5, 334
Nidwalden.....	168	6	6, 026	1, 547	1, 206	1, 434
Glarus.....	378	5	9, 208	3, 088	3, 090	6, 399
Zug.....	515	-----	7, 226	2, 227	735	552
Friburg.....	9, 076	175	60, 088	21, 650	23, 463	11, 294
Soleure.....	2, 962	15	28, 315	9, 326	6, 673	9, 176
Basle City.....	1, 120	2	1, 644	710	276	167
Basle Land.....	1, 940	3	14, 042	3, 776	5, 816	3, 680
Schaffhausen.....	1, 316	2	8, 901	5, 096	176	3, 166
Appenzell, O. Rh.....	768	-----	14, 963	2, 643	1, 087	3, 034
Appenzell, I. Rh.....	262	-----	6, 748	2, 446	919	4, 825
St. Gallen.....	5, 525	29	69, 520	12, 454	18, 408	21, 064
Granbunden.....	3, 119	36	81, 860	18, 236	86, 751	46, 212
Aargau.....	3, 728	12	62, 948	19, 565	3, 377	11, 390
Thurgau.....	3, 152	5	34, 662	6, 660	2, 697	6, 569
Tessin.....	1, 067	876	45, 133	11, 902	26, 165	63, 616
Vaudt.....	17, 086	359	77, 533	38, 577	49, 086	15, 827
Wallis.....	2, 204	3, 164	61, 811	9, 619	60, 087	28, 424
Neuenburg.....	2, 371	107	19, 099	3, 510	4, 666	2, 812
Geneve.....	2, 652	349	7, 954	1, 898	911	1, 165
Total.....	100, 364	5, 304	991, 722	304, 062	445, 514	276, 020

The consul says : "The rinderpest was brought into Switzerland by a cattle dealer coming from Brezentz, in Austria, who crossed the frontier of Switzerland with his herd of cattle, which he had purchased in the market of Vienna. Of this herd only three animals were forwarded to Coire, enough to spread the pest in six stables with twenty-two cattle. In the same way it was brought to Tablet, near St. Gall. As soon as the authorities had received information, the

federal council, appreciating the danger, appointed an extra commissioner, who was ordered to take steps, in connection with the local authorities, to guard further spread of the disease. The first step was the establishment of a cordon against further importation from neighboring states. A strict, careful observation, and prompt action of the local authorities, had its effect, and the disease disappeared, except a few cases.

"On the lake of Zug a company of Americans have the intention of establishing a milk-condensing factory. Machinery has already arrived, and a new building is to be finished during the year. As they can buy milk cheaper than in any other country, it is expected that a profitable business will be made."

CORN AND WHEAT IN CHICAGO AND MILWAUKEE.

The following is a statement of the receipts of corn in Chicago for four years, showing a very heavy movement of that cereal during the past autumn :

Years.	Bushels of corn.	Decrease.	Increase.
1862-'3	28, 086, 664	2, 390, 227	.....
1863-'4	13, 720, 974	14, 365, 691	.....
1864-'5	24, 693, 905	.....	10, 972, 931
1865-'6	32, 837, 736	.....	8, 143, 831

The year in the above ends November 1. In six weeks following that date, in the present season, the receipts of corn have been 1,494,927, against 864,999 last season, an increase of 624,926 bushels.

The following table exhibits the quantity of wheat and flour received, the latter reduced to bushels and placed in the aggregate :

Years.	Bushels of wheat.	Barrels of flour.	Total of wheat and flour in bushels.
1862-'3	11, 912, 507	1, 580, 802	19, 816, 517
1863-'4	13, 395, 729	1, 431, 790	20, 554, 679
1864-'5	9, 431, 137	979, 694	14, 329, 607
1865-'6	8, 482, 526	1, 532, 411	16, 144, 581

The receipts of grain at Milwaukee from January 1, 1866, to December 12 have been as follows :

Flour	442, 978 barrels.
Corn	761, 762 bushels.
Oats	1, 774, 525 do.
Rye	372, 503 do.

For the same period shipments have been made as follows :

Flour	694, 305 barrels.
Corn	479, 979 bushels.
Oats	1, 934, 116 do.
Rye	255, 312 do.

STATISTICS OF RINDERPEST IN GREAT BRITAIN.

	Scotland.	Wales.	England.	Great Britain.
Area in acres	19,639,377	5,102,885	32,221,998	56,964,260
Number of cattle to 100 acres	4.8	11.3	10.2	8.4
Total census of cattle, March 5, 1866 ..	937,401	578,136	2,270,299	4,785,836
Number of cattle died or killed to March 3, 1866	31,236	5,565	113,010	149,811
Total number attacked	49,861	8,388	198,474	253,723
Total number killed	6,263	1,180	77,570	85,013
Total number died	28,088	5,794	90,421	124,303
Total number recovered	10,707	1,117	21,589	33,413
Number unaccounted for	1,803	297	8,894	10,994
Percentage of attacks	4.838	1.437	5.866	5.141

Number of sheep, March 5, 1866	5,255,077	1,799,821	14,993,383	22,048,281
Total number farms, sheds, or places where sheep have been attacked ..	10	-----	94	104
Numbers slaughtered to prevent spread of disease	-----	-----	419	419
Number attacked	159	-----	6,667	6,826
Number killed	39	-----	1,053	1,092
Number died	99	-----	4,541	4,640
Number recovered	18	-----	1,013	1,031
Number unaccounted for	3	-----	60	63

RECENT EXPORTS OF CEREALS

To Great Britain and Ireland since September 1, 1866 :

From—	Flour.	Meal.	Wheat.	Corn.
	<i>Barrels.</i>	<i>Barrels.</i>	<i>Bushels.</i>	<i>Bushels.</i>
New York, December 11	36,025	416	231,599	2,318,666
New Orleans, December 5	-----	-----	-----	-----
Philadelphia, December 8	-----	-----	3,345	38,983
Baltimore, December 8	-----	-----	-----	1,897
Boston, December 8	19	-----	-----	-----
Other ports, (California, &c.,) December 8 ..	7,027	-----	1,256,591	9,262
Total 1866	43,071	416	1,491,535	2,368,808
Total 1865	39,562	1,984	779,990	2,624,878
Increase	3,509	-----	711,545	-----
Decrease	-----	1,568	-----	256,070
Total 1864	38,629	-----	1,202,734	56,933
Total 1863	352,502	10	4,301,440	239,459

To the continent :

From—	Flour.	Wheat.	Corn.	Rye.
	<i>Barrels.</i>	<i>Bushels.</i>	<i>Bushels.</i>	<i>Bushels.</i>
New York, December 11	1,230	-----	208	16,113
Other ports, to latest dates	16	-----	-----	-----
Total 1866	1,246	-----	208	16,113
Total 1865	2,420	15,960	100	50,216
Total 1864	8,863	41,357	-----	-----
Total 1863	23,657	128,295	-----	13,965

AGRICULTURAL PRODUCTS AND MANUFACTURES.

The following table shows the amount of imports of certain raw products and manufactures of agriculture into Great Britain for the first nine months of 1865 and 1866 :

Articles.	1865.	1866.	Increase.	Decrease.
Wheat	£6,137,962	£8,863,153	£2,725,191	-----
Barley	1,772,358	2,148,102	375,744	-----
Oats	1,978,732	2,730,189	751,457	-----
Peas	139,237	369,737	230,500	-----
Beans	254,230	245,997	-----	£8,233
Indian corn or maize	1,261,954	3,647,578	2,385,624	-----
Wheat meal and flour	1,560,203	2,650,528	1,090,320	-----
Cotton, raw	36,187,355	62,838,162	26,650,767	-----
Cotton manufact'res not made up	496,160	782,298	286,138	-----
Flax	3,515,406	3,380,495	-----	134,911
Guano	1,920,842	959,975	-----	960,867
Hemp	992,532	1,254,974	-----	262,442
Jute	960,957	1,244,047	283,090	-----
Hides	1,556,199	1,955,463	399,264	-----
Metals, copper	1,730,365	1,894,575	164,210	-----
Provisions	7,055,544	7,273,543	217,999	-----
Rice	647,824	675,217	27,393	-----
Seeds, flax and linseed	2,410,560	2,071,561	-----	338,999
Timber, deals, battens, &c.	4,195,708	3,520,174	-----	675,534
Timber, not sawed or split	3,454,258	2,519,853	-----	934,405
Tobacco, unstemmed	1,034,056	662,936	-----	371,120
Tobacco, stemmed	202,342	364,718	162,376	-----
Wine	2,690,926	3,579,859	888,933	-----
Wool	11,434,013	12,931,762	1,497,749	-----
Woollen manufactures	1,222,827	1,407,030	184,203	-----

The following is a statement of exports for ten months of the years 1865 and 1866 :

Articles.	1865.	1866.	Increase.	Decrease.
Cotton yarn.....	£1,295,063	£2,047,506	£752,473	-----
Manufactures—piece goods...	36,616,490	48,565,774	11,949,284	-----
Thread	594,964	885,435	290,471	-----
Leather, wrought—boots and shoes	1,220,030	839,164	-----	£380,866
Linen yarn.....	2,042,406	1,930,740	-----	111,666
Linen manufactures—piece goods.....	6,798,938	7,616,279	817,341	-----
Thread	471,952	447,711	-----	24,241
Silk manufactures.....	1,190,773	1,160,075	-----	30,698
Wool, sheep and lambs'.....	719,457	752,677	33,220	-----
Woollen and worsted yarn.....	4,573,346	3,768,539	-----	804,807
Manufactures—cloths, &c	3,357,965	4,692,354	1,334,389	-----
Blankets	490,636	415,169	-----	75,467
Carpets and druggets.....	664,618	1,080,133	415,515	-----
Worsted stuffs and waistcoat-ings	10,803,040	13,390,232	587,192	-----

THE FOOD OF ENGLAND.

The importance of meat production in a country having a large population and a diversified industry is strikingly suggested by this item of British importations :

	1842.	1853.	1863.	1864.	1865.
Horned cattle, No. }	Prohibited..	{ 125,253	150,898	231,733	283,271
Sheep, No. }		{ 259,420	430,788	496,243	914,170
Bacon & hams, cwt	8,355	205,667	1,877,813	1,069,390	713,346
Butter, cwt	175,197	403,289	986,708	1,054,617	1,083,717
Eggs, No.	89,548,747	123,450,678	266,929,680	335,298,240	364,013,040

The upward tendency of wages of labor in that country, and the prevalence of rinderpest, are causing a gradual but constant increase of prices of meats, as will be seen :

	1864.		1865.	
	November.	December.	November.	December.
Oxen and bulls :	£ s. d.	£ s. d.	£ s. d.	£ s. d.
From Portugal and Spain.....	16 0 0	16 10 0	17 0 0	17 0 0
From other countries	15 0 0	18 10 0	17 8 0	19 0 0
Cows	16 0 0	16 0 0	14 6 8	16 0 0
Calves	4 19 6	5 0 0	4 0 0	4 15 0
Sheep :				
From Hanse Towns	1 14 0	1 10 0	1 0 0	0 19 0
From Holland.....	1 15 0	2 0 0	2 11 0	2 11 0
Lambs.....	0 17 0	1 5 0	0 15 0	0 15 0
Swine and pigs	2 5 0	2 6 0	3 0 0	3 0 0

Would it not be better for the farmers of the United States, in view of such facts, to produce more barrelled beef, hams, lard, and other meat products, and, meanwhile, increase the fertility of the soil, than to attempt to export bread-stuffs, sink half their value in freights, and most of the other half in the impoverishment of the soil?

PRICES OF GRAIN AND FLOUR IN ENGLAND.

The prices of grain of various kinds, and flour, from different countries, were as follows on the tenth ultimo—the quantities being reduced to bushels and barrels, and shillings to dollars and cents:

Wheat—English, old white.....	per bushel..	\$1 94 to \$2 03
English, old red.....	do.....	1 88 to 1 94
English, white, new.....	do.....	1 72 to 1 94
English, red, new.....	do.....	1 50 to 1 81
Danzig and Königsberg, high mixed.....	do.....	2 00 to 2 12
Danzig and Königsberg, high new.....	do.....	1 81 to 1 94
Rostock and Wismer, new and old.....	do.....	1 87 to 2 00
Stettin, Stralsund, and Wolgast.....	do.....	1 87 to 1 97
Rhenish and Brabant.....	do.....	1 87 to 1 94
St. Petersburg, soft.....	do.....	1 68 to 1 77
American and Canadian, red.....	do.....	1 81 to 1 87
Odessa, soft.....	do.....	1 65 to 1 75
Flour—Town made.....	per barrel..	8 22 to 9 28
Country marks.....	do.....	7 00 to 7 53
French and Belgian.....	do.....	7 53 to 8 22
American and Canadian, fancy brands.....	do.....	8 25 to 8 75
American superfine to extra superfine.....	do.....	7 75 to 8 00
American common to fine.....	do.....	7 50 to 7 75
American heated and sour.....	do.....	7 00 to 7 25
Indian corn—American white.....	per bushel..	1 12 to 1 16
American yellow and mixed.....	do.....	1 03 to 1 09
Galatz, Odessa, and Ibrail, yellow.....	do.....	1 09 to 1 12

ALSIKE CLOVER

The introduction of Alsike clover promises to benefit permanently our agriculture, and acknowledgments of its value are received by this department from various quarters. The Commissioner, in his recent report to the President, says, "In experiments with the clovers the Alsike proved very satisfactory, growing with rank luxuriance in this climate and remaining green and succulent to a late period in the season. It has been cut three times, and at the present writing (November 15) presents a fine appearance."

A correspondent in Pennsylvania says: "I failed to obtain seed from my Alsike clover. This hybridous plant,* in most respects, partakes more of the nature of the *white* than the red clover. It produces its seed from its spring or first growth. In a former communication I stated that my cattle were permitted to enjoy the first. Hence the loss of seed. It, however, continued to grow much better throughout the summer and autumn than the white clover, and its growth is evidently not so injuriously affected from dry weather."

* It is understood to be a distinct variety not produced by hybridization. Its botanical name (*Trifolium hybridum*) probably misleads our correspondent.

BOTS IN HORSES.

The following is the substance of a note from Brevet Colonel J. Hamilton to Professor Townsend Glover, entomologist of this department, dated at Raleigh, North Carolina:

"I observe in your report for 1864, that you say that no very certain means of ridding the horse's stomach of the bots has yet been published. Since receiving the following from Dr. Gee, of Florida, I am glad that I have had no opportunity of trying it, but it has the air of efficacy, and I certainly *shall* on the first opportunity. You are aware that it is hard sometimes to distinguish between an attack of the bots and one of the colic; this remedy, however, is equally efficient for either. The reason that a bot can resist the action of agents administered is his power of drawing his head into the walls of the stomach by his tentacles. But he cannot resist the chloroform. A table-spoonful of chloroform screened by a couple of spoonfuls of any good mucilage will make him let go his hold on the stomach even after having bored nearly through."

PROBSTIER OATS.

This variety of oats is thus referred to by a correspondent: "I commenced with five quarts, from which I gathered two and a half bushels. Through the carelessness of a servant, one bushel of this was fed to the horses. Hence, one and a half bushel was sown broadcast on about half an acre, on the 6th day of April last. From this I have received twenty-nine and a half bushels of splendid grain, weighing thirty pounds to the bushel. The straw is decidedly superior as forage, it being better supplied with leaves, and the stalk is by far less brittle than the common varieties. Indeed one could not well imagine the difference in favor of the former, after passing through the thresher. While the common varieties are broken into shreds, the other is merely bruised, with a very large per cent. of the leaves remaining to the stalk."

LARGE AND SMALL POTATOES.

From the weekly journal of the Agricultural Society of the Grand Duchy of Baden we condense an analysis made by Dr. Neesler to determine the relative nutritive value of large and small potatoes. For the purpose named, potatoes of three sizes were selected, the largest being about two inches in diameter, the smallest about the size of walnuts, and the third a medium between the two, yielding the following percentage of starch: large size, 17.2; medium, 15.2; smallest, 14.6.

* * * * *

CHEAP BEEF SUPPLIES.

South America is becoming a strong competitor with more cultivated countries, not only in wool production, but in meat supplies. The South American pampas have long been the home of immense herds of cattle. Columbus, in one of his New World voyages, brought specimens of European stock. Importations

followed in the various settlements in South America. The Indians were early taught by Jesuit missionaries to milk the cow and use her milk and meat, and ultimately to yoke oxen by the horns for hauling drift-wood and other burdens. More than three hundred years ago cattle were taken from the coast of Brazil to the grassy plains of Paraguay. Prior even to that importation, it is claimed that herds were established in Peru, introduced from the Pacific coast, which soon spread into the Pampas.

The following facts concerning this interest are from Rev. G. D. Carrow, who furnished an essay on the subject for the agricultural report for 1865 :

"In killing cattle for home consumption the butchers first hamstringing them and then cut their throats. In dressing them they are not suspended, but flayed on the ground. Some years ago the Buenos Ayrean city fathers prepared a slaughter-house of the same style and conveniences as are common in other countries, but the butchers refused to occupy it, and steadfastly adhered to the old custom of hamstringing and throat-cutting in an open pen. The carcass is divided in a mode somewhat peculiar. The tenderloin is taken out and sold by itself. Beef is never weighed in market, nor even measured, except by the butcher's eye, who acquires great exactness in subdividing the quarters of an animal so as to make the pieces suit the daily, bi-weekly, or tri-weekly demands of his customers. The beef market of the pampas was in former years probably the cheapest in the civilized world. So recently as twenty years ago an ordinary cow or heifer could be bought for one silver dollar, and a large fat steer for two dollars and a half. Now, the prices of the same animals range from eight to twenty dollars. In 1858 a piece of sirloin, weighing ten pounds, could be purchased in the market of Buenos Ayres or Montevideo for fifty cents, and in the towns of the interior for half that sum.

"The natives are very partial to roast beef, which they term *asado*; but their mode of preparing it is peculiar to themselves. They take the best roasting pieces and cut away the flesh till the rib is reduced to nearly the thinness of an ordinary sparerib of pork, according to our method of butchering. This is done to suit their mode of roasting, which is never in accordance with that which obtains in Paris, London, or New York. Instead of the oven, they still use the more primitive spit. This is a piece of iron about four feet long. It is run through the meat, and, if the meat be prepared in the open air, is stuck into the ground at such an angle as brings the meat into contact with the tip of the flame; or, if the meat be prepared in the kitchen, the spit is inclined against the chimney in about the same position. The fire is kindled with weeds or small dry faggots cut from the paradise or peach tree. As this consumes very quickly, fresh fuel is constantly supplied. When the fat of the flesh ignites and blazes, the cook seizes the spit, blows out the flame, and then returns it to its place. This is repeated till the meat is nearly done, when the spit is laid across two large bricks, and the process of cooking is completed by toasting a few minutes over the fresh coals. Meat cooked in this way is somewhat smoked and a good deal blackened, but it has a juiciness and a peculiar flavor which could not fail to commend it to the palate of a finished epicure.

"Some travellers complain of the toughness of the native roast, but the writer's experience is altogether in conflict with their statements, and his impression is that they must have fallen into the hands of a very unskilful cook, or upon the carcass of an animal that had been toughened by poverty and leanness or unusual length of days. The qualities of the beef are very superior. English residents, generally, do not esteem it; but this is owing to that intense national egotism from which few even of travelled Englishmen ever entirely recover. They will roundly assert that neither first-rate beef nor mutton can be found beyond the limits of the British isles. But many Americans, who have travelled extensively on both continents, consider the best pampa beef fully equal, if not a little superior, to the best beef ever brought to an English market. It has not

the same amount of fat, nor is the fat so thoroughly distributed through the lean portions of the carcass, but it is sufficiently fat to meet the demand of any delicate and well-educated palate. The *tissues* are so fine as to render the flesh peculiarly tender, and, when cooked, it has a flavor akin to that which distinguishes the flesh of the wild duck from that of the flock which is hatched in the poultry house, and reared in the barn-yard. It is also very easily digested. A feeble, dyspeptic stomach may take as much as the appetite of a hungry man will ever crave and not be oppressed by the indulgence. Pampa beef, as well as pampa air, might safely be prescribed for all invalids suffering from dyspepsia, and assailed by its veteran ranks of horrors and blue devils.

"An establishment for preparing jerked beef is called a '*saladero*'—literally, salting tub. The mode of slaughtering the cattle and preparing the beef is very simple. As in the case of 'marking,' the herd is driven into a large pen. A man or boy, with a lasso attached to his saddle girth, throws the noose around the horns of the animal. The lasso traverses a pulley, suspended from a cross-beam resting on two strong upright posts. The horse draws the head of the animal directly up to the beam, where a man or boy sits with a long knife. The moment the head touches the beam the knife severs the spinal cord just back of the horns, and the animal drops on a movable platform which runs on a tramway, and is immediately drawn out of the pen by hand and placed under an open shed, where two men, without hanging the carcass, quickly flay it right and left; two others take out the intestines, cut off the head, divide the trunk into four quarters, hang them on hooks, cut them in slices, throw them into a handbarrow, and, while one wheels off the flesh to be salted, another conveys the hide, bones, horns, and tallow to their appropriate places. In the salting shed is a large tank filled with strong pickle. The slices are deposited in this for a short time, in order to wash them from all blood. They are then hooked out and packed under the shed in alternate layers of meat and salt. The slices take sufficient salt in about a week. They are then removed to another part of the shed, turned, and piled again. This moving and piling is repeated several times. The meat is then hung on poles in the sun for a few days, when it is again piled for the last time, and looks in this, its last stage of preparation, in the separate pieces, very much like codfish or sole leather; and, in the aggregate pile, very much like a stack of corn-husks that has stood the storms of a New England winter."

Several new processes of curing beef and mutton are patented in European countries and practiced with a good degree of success.

That of Mr. John Morgan, which is quite simple, is based on forced infiltration, with the adoption of the circulatory system as a means for introducing brine into the tissues at little labor and inexpensive machinery. The animal, if a sheep, is killed by a blow on the head; if an ox, by the insertion of the point of a knife at the back of the head, which severs the spinal cord, and causes instantaneous death. The chest is then sawn open, and kept so by a cross-piece of wood, and the heart is exposed. An incision is made in the right ventricle, and another in the left, the blood being allowed to escape; when it has ceased flowing, a pipe with a stop-cock is introduced into the incision in the left ventricle of the heart, and so into the aorta or great vessel leading through the body, and is there firmly retained. This pipe is connected by a gutta percha flexible tube to a barrel containing the fluid to be injected, which is composed of water and salt, (one gallon of brine to the cwt.,) and a quarter to a half pound of nitre carefully refined, and fixed at an altitude of from eighteen to twenty feet. The briny fluid being let on, rushes out at the right side of the heart after traversing all the circulatory organs, clearing the vessels and capillaries, and preparing the body for the second stage, which is performed by closing the incision on the right side of the heart with a sliding forceps, and thereby rendering the circulatory system perfect, with the vessels free and ready to receive the preservative

fluid. A few seconds suffice for the brine to infuse the whole body, when by cutting the ear or hoof of the animal, a stream of clear pure brine, untainted by a single particle of blood, will instantly be seen to flow.

Liebig's process reduces the meat to an "essence of beef," requiring thirty-three pounds of meat to make one pound, which is assumed to be sufficient for a soup for one hundred and twenty-eight men. The flesh of the animal is left twenty-four hours after killing to cool, then reduced to a pulp between round iron rollers armed with points, and turned by steam power, and afterwards steamed an hour in a vat of water. A trough-shaped reservoir with a sieve at the bottom draws the juices into a vat, from which the fat is drawn off, and after passing through a filtering vat it is packed in tins as extract of beef. It brings three dollars and upwards per pound in London.

The process of Messrs. Paris and Sloper aims to preserve the meat in the condition of fresh beef, by the destruction of oxygen in the vessel in which it is packed. The bone is extracted, but fat remains. This meat is sent to England to supply the meat deficiency produced in part by the prevalence of the rinderpest, where it is sold for four to five pence per pound, or eight to ten cents of our money. It seems to give pretty good satisfaction. The report explains that "from the tins in which it is placed the air is exhausted by means of water forced in at the bottom, which, when it reaches the top, is allowed to redescend and run off, and the vacuum thus left is filled from above by a certain gas, the composition of which is kept a profound secret. The two holes at the top and bottom are carefully soldered down, and the meat is then ready for exportation. The only risk it runs is from leakage, the smallest opening in the tin case proving destructive, by allowing the gas to escape and the air to get in."

Several processes have also been discovered in this country for the reduction of the nutritive elements of beef to convenient portable bulk, among which may be mentioned that of Gail Borden, of Texas, of "condensed milk" celebrity, who gave us the meat biscuit, but which appears to have been practically discarded. A few years since, Professor Horsford, of Harvard College, invented a process of desiccation, whereby many rations of beef might be carried by the soldier in his haversack, but the condensation did not become popular with the army, and can scarcely be called a success, though modifications may yet render it such.

Prior to the late war, Dr. N. B. Marsh, of Ohio, devised a system of embalming beef, and removed to Texas for the purpose of engaging in the enterprise. He soon after died, however, and the patent was neglected until recently, when it was purchased by Colonel W. C. Alberger, of New York. By this process the animal is killed by a blow on the head, the breast-bone is lifted, both sides of the heart opened, and as soon as the blood ceases to flow, a pipe is inserted in the left side of the heart, connected with a tank of cold brine. The brine is forced through the arteries and capillaries, and in a few moments it is found pouring out from the right side of the heart. The meat is thus chilled and can be immediately cut and packed. The animal is dressed after the curing.

EXTRACTS FROM CORRESPONDENCE.

Smyth county, Virginia.—Sorghum is becoming an important crop in this county. From close observation I think there will be 25,000 or 30,000 gallons of molasses made the present year. No sugar is made from it; the impossibility of getting molasses during the war compelled the people to make their own, and this has proved that it is a profitable crop. If well made and properly cleansed it makes a superior article to New Orleans sirup.

Liberty county, Florida.—Our sugar-cane has become so hard and woody that

we make but a poor article of sugar; although the growth of the cane may be ever so large, the yield is small. We are glad to see that you have called the attention of Congress to this matter, and hope we may receive some India cane to regenerate our crops.

Morgan county, Georgia.—All our crops are so poor that before another year there will be much suffering. Corn must be shipped from the north to make a crop, as it is the opinion of many that the amount on hand will hardly supply the inhabitants through the year. Corn sells readily at \$1 70 per bushel.

Coffee county, Tennessee.—To say the least of our crops, they are, in all cases, except wheat, equal to any former year within my recollection. The corn crop is a full average yield, with more acreage.

Baltimore county, Maryland.—The corn crop is a very heavy one, equal in quality and quantity to that of 1865, while the buckwheat crop will be double that of last year. The crop of potatoes is very large, but the rot has made its appearance, particularly in the low lands; the damage cannot be estimated at present, but will not be great. More sorghum cane is coming into the mills than last season, and of a better quality. The tobacco culture is gradually falling off in this county, and in some localities has been entirely abandoned, farmers paying more attention to the dairy.

King George county, Virginia.—Late corn has improved in a slight degree, but the crop is estimated by the most judicious farmers to be diminished one-third by the dry summer. The aggregate crop in the northern neck of Virginia will hardly reach one-fourth the crop of former years.

Lewis county, Kentucky.—The crops have not been so abundant throughout the country for the past twelve years, wheat alone excepted, of which latter there was not enough raised for seed. Potato crop never so large.

Amelia county, Virginia.—The lateness of the fall has enabled the farmer in every instance to save his entire crop of tobacco, though last June, the plants being abundant and season propitious, every one put into the ground more than he thought he had labor to protect from the worms and suckers, and save finally from the frosts; but the crop is housed, mostly "cured," and upon the whole is as good as it generally is, one year with another.

Indiana county, Pennsylvania.—The culture of sorghum cane has been quite successful in the southern part of this county, the yield having been upwards of 125 gallons of molasses per acre, while some lots have produced a gallon per square rod of ground, or 160 gallons to the acre. With the necessary manufacturing apparatus I have no doubt that the crop will be largely cultivated hereafter, and prove one of the most remunerative of farm productions.

Warren county, Indiana.—The potato rot is almost universal in this locality, none but the variety called the Peach Blows escaping almost entire destruction.

Johnson county, Iowa.—Potatoes are very much below an average, the result of the "potato bug," though the quality of the crop in this county is, I think, fully an average compared with last year.

Warren county, Illinois.—There is scarce half a crop of potatoes in this county. Both early and late varieties were carried off by the "ten-striped spearman," a bug never seen here before.

Ogle county, Illinois.—A disease (I think, worms) has been spreading among the hogs, and farmers have been losing them by the hundred. In almost all cases the hogs have passed quantities of large worms. The only remedy yet tried, that appears to do any good, is black antimony given in sweet milk.

Butler county, Kentucky.—Hogs are yet dying of cholera. We have no remedy for cure, but the crude petroleum is used by many as a preventive. I tried it and some of mine recovered, but I did not think the petroleum cured them, though I thought it prevented others from taking the disease.

Douglas county, Kansas.—Grasshoppers have destroyed all early-sowed wheat. They are still quite numerous.

Collin county, Texas.—Grasshoppers appeared in the northwest part of this county about the 1st ultimo, and destroyed all the wheat that had come up, and then passed on to the southwest. They have nearly disappeared. They fly very high, and in some places were so thick that we estimated them at one to the square inch.

COTTON.

Macon county, Georgia.—The cotton crop is now gathered with slight exception, and I can now give results. I planted 150 acres, and expected to make fifty bales of cotton, weighing 450 lbs. to the bale. I have made but 22 bales, 9,900 lbs., worth about 25 cents net per lb., \$2,475. Expenses: provisions, costing \$2,000; hire of freedmen, \$1,200; overseer's wages, \$700; total, \$3,600. Thus, you see, I have incurred a loss of \$1,125, leaving out of the calculation interest on value of lands and mules, and wear of implements. My corn crop was almost an entire failure. This is about a fair average for this section of the country.

Oxford county, Georgia.—The appearance of ice this morning settles the case of "King Cotton" for this year. I do not think more than a third of a crop will be made in Georgia this year.

Taylor county, Georgia.—In most localities the cotton is all opened, and will soon be housed should the present fine weather continue. The staple of cotton is not as good as it has been in former years, but the color is generally good.

Claiborne county, Mississippi.—The cotton crop is a failure beyond doubt. Two-ninths of a crop will approximate the result.

Washington county, Mississippi.—About one-fourth of the number of bales of cotton are now picked and ginned that were in former years at this date. I do not believe there will be near as great an effort made next year to raise a cotton crop—I mean a large crop—as there was this year, as many planters have not paid expenses.

Fayette county, Tennessee.—From the causes given I think the cotton crop will be cut short fully one-fourth of the estimate for August. Our county's average yearly yield has been 30,000 bales of 500 lbs., but from indications the present crop will not be over 6,000 bales.

Carroll parish, Louisiana.—The crop of cotton for this point in 1860 was near 90,000 bales; 9,000 will be more than will probably be made this year.

Ouachita parish, Louisiana.—The cotton in the parish on the alluvial lands was planted in the proportion of about three-fourths of 1860, and from the unusually wet season and the worms the yield is now estimated at two-fifths of a bale of 400 lbs. to the acre. In the upland it will require about five acres to make 400 lbs. of lint.

Washington county, Texas.—The cotton crop is as fine in this county this season as ever was grown here, both as to quantity and quality. All that was planted early and kept well cultivated will far excel any ever grown here, but the late crop was injured badly by the worm. Most of the staple is extra.

Trinity county, Texas.—There was a large amount of cotton planted, of which there was considerable ruined by the flood and wet weather, which is unusual here. The farmers, however, went on planting again, and the cotton came on and did well until some time in September, when the worm commenced, reducing the crop about one-third, and now I suppose we will make what we call a half crop this year.

THE TERRITORIES.

Arizona.—Governor M'Cormick, formerly chief clerk of this department, and ever alive to the interests of agriculture, thus alludes to that interest in his message:

"The valleys of the Territory, more extensively cultivated this year than ever before, have produced an abundant harvest. The yield of corn, vegetables, and small grain is such as to prove that henceforth we need not look abroad for food; and I make no doubt that if assured that their crops will be bought and promptly paid for, and they are properly protected from Indian incursions, our ranchmen will, during the ensuing year, by the favor of Heaven, raise all the breadstuffs that may be required to subsist the military force in the Territory. Here in central Arizona, even in the mountain districts, where comparatively little was expected in the way of agricultural success, the pursuit of the husbandman is likely to be one of the most profitable. The heavy rains of the present season indicate that irrigation will seldom be necessary, and the fertility of the soil is remarkable. It seems as though everything planted attained the most luxuriant and complete growth in the shortest possible time. The grains, vegetables, and melons, taken promiscuously from any of the ranches, and raised without fertilization of any kind, or other than the simplest care, would command a premium if placed in competition with the products of the richest and most expensive farms and gardens of the Atlantic States."

Colorado.—It is stated that in this enterprising young Territory, during the past year, one hundred and thirty-six miles of irrigating ditches have been constructed at a cost of one hundred and thirty-six thousand dollars; and that in the land office the claims and entries for the first ten months in 1865 were one hundred and forty-one thousand acres. For the same time this year the entries and claims have been two hundred and fifty-one thousand acres. These lands could only be taken by pre-emption and homestead claims, and consequently the claims are made for actual settlement.

CONDITION OF THE CROPS.

The tables for November show the condition, compared with last year, of corn, sorghum, potatoes, peas, hay, beans, buckwheat, flax, cotton, sugar-cane, grapes, apples, pears.

The corn crop of the States, exclusive of eleven southern and the Pacific States, was estimated for 1865, in round numbers, at 704,000,000 bushels. The same States in 1866 yield an estimated product of 679,000,000, a decline of 25,000,000 bushels in quantity, a deficiency in quality equivalent to 75,000,000 more, making a difference in the feeding value of the crop, 100,000,000 bushels, between this and the previous year.

The South made a great effort for a good supply of this indispensable food for man and beast, and succeeded better than was expected. The data of the department, though not so full as to secure a close approximation, indicates a yield of 185,000,000 bushels in eleven States against 274,000,000 in 1859, a reduction amounting to 89,000,000 bushels.

The total amount of corn grown throughout the limits of the United States in 1866 is assumed to be about 880,000,000 bushels.

It is a singular fact that the wheat crop has declined in quantity for three years, not only in this country but in England, in about the same proportion;

and very nearly the same state of facts exists in France. The following is the estimated acreage and product of France :

Year.	Hectares sown.	Hectolitres obtained.
1861.....	6, 754, 227	75, 116, 287
1862.....	6, 881, 613	99, 292, 224
1863.....	6, 918, 768	116, 781, 794
1864.....	6, 839, 073	111, 274, 018
1865.....	6, 891, 440	95, 431, 028

The decline is thus expressed for the last three years: Per hectare, successively, 16.88, 16.15, and 13.85 hectolitres. The hectare is 2.471 of our acre, and the hectolitre 2.8375 bushels, equivalent, per acre, to 19.3, 19, and 15.9 bushels.

The report of the Commissioner of Agriculture to the President, for the current year, thus sums up the wheat estimates of the season: "The wheat crop of 1863 in the twenty-two States reported was very large; in 1864 the estimate was, in round numbers, 13,000,000 bushels less, or 160,000,000; in 1865, 148,000,000; and the present estimate is still further reduced to 143,000,000. Returns from the eleven southern States, so far as received, warrant an estimate of 17,000,000 for that section. Texas has produced a large crop; the other southern States less than half the average product. The crop of the Pacific States is very heavy, leaving a far greater surplus for export than the entire amount of the crop of 1860. From all the data received in the department the total amount of wheat produced in 1866 may be estimated at 180,000,000 bushels. The crop of 1859 was 173,000,000, and that of the present year, at the ratio of increase from 1850 to 1860, should have reached 242,000,000. The supply is about five bushels to each inhabitant, or half a bushel less than in 1859."

Sorghum has become an almost universal farm crop. In New England and the States of the northern border the climate is not favorable to its growth. The States of Maryland and Delaware have given increased attention to it the past year. Ohio, as seen in the table, shows a large yield; Indiana is credited with nearly an average; Kansas has a full average; while Illinois, Iowa and Missouri do not appear to have secured their last year's supply.

The estimate for potatoes, including all except the Pacific States, is 104,000,000 bushels. The crop of the seven southern States, not including sweet potatoes, is placed at 5,884,000 bushels. The estimate for twenty-two States in 1865 was 101,000,000. A slight falling off from last year's product is indicated. Maine, New Hampshire, West Virginia, Kentucky and Texas, considerably exceeded an average; the West failed generally to secure a full crop, and heavy losses from rot were sustained in some localities. It is evident that new and vigorous varieties are needed in the west. The northeastern States, after a period of deterioration and sweeping destruction, have obtained and disseminated prolific seedlings of excellent quality, and are reaping the results of the change of seed. This department, in its experiments with forty-three varieties of potatoes, found the Orono, Samaritan and Early Goodrich to be the most desirable varieties.

The hay crop is deficient; the estimate falls a little short of 21,000,000 tons, including the South. The figures for the last year exceeded 23,500,000, without the eleven southern States, which, however, make a difference of scarcely 1,000,000 tons. The quality has been very good.

The tobacco crop has been augmented by large products in the south; the estimate for Virginia is 95,000,000 pounds; Tennessee, 40,000,000; North Carolina, 30,000,000. The total estimate is 350,000,000 pounds, of which about half was grown in the States hitherto reported, of which Kentucky produces about 55,000,000 pounds.

The estimates of the cotton crop made in our October report, upon data of

September first, and subsequently modified by local losses, especially in Louisiana, have been fully sustained in most of the cotton States. From the data received in the department, the total estimate, including the little grown in States north of the cotton region proper, cannot be placed below 1,750,000 bales of 400 pounds each. As compared with outside estimates this inclines to lower rather than upper ranges of figures. Some cotton planters and commission merchants make the total 1,250,000 bales, of 500 pounds each, which is nearer the actual weight of New Orleans bales—a result scarcely less than that arrived at in this department. On the other hand, there are others who assume a total of 2,000,000 bales. Our estimates are not an average of a great many irresponsible guesses of individuals in several States, but the actual footing up of careful county estimates, after close scrutiny and cautious examination.

The following are the estimates for the States below mentioned:

	Bales.
North Carolina.....	91, 000
South Carolina.....	102, 000
Georgia.....	205, 000
Florida.....	36, 000
Alabama.....	220, 000
Mississippi.....	270, 000
Louisiana.....	109, 000
Texas.....	300, 000
Arkansas.....	182, 000
Tennessee.....	148, 000
	<hr/>
	1, 663, 000
Other States.....	87, 000
	<hr/>
Total.....	1, 750, 000
	<hr/> <hr/>

Table showing the condition of the crops on the first day of November, 1866.

States.	CORN.		SORGHUM.		POTATOES.		TOBACCO.		PEAS.	
	Average amount of crop compared with 1865.	Quality of same.	Average amount of crop compared with 1865.	Quality of same.	Average amount of crop compared with 1865.	Quality of same.	Average amount of crop compared with 1865.	Quality of same.	Average amount of garden crop compared with 1865.	Average amount of field crop for forage compared with 1865.
Maine.....	9.6	9.3	-----	-----	11.4	9.2	8.	8.	10.3	10.5
New Hampshire.....	9.	8.2	-----	-----	11.6	10.3	-----	-----	10.	10.
Vermont.....	8.3	6.6	-----	-----	9.6	8.4	10.	8.	10.	9.
Massachusetts.....	10.	9.4	9.5	8.	11.	10.	9.	10.6	9.7	10.6
Rhode Island.....	8.2	9.	-----	-----	9.5	9.	7.	9.	11.	-----
Connecticut.....	9.8	10.	8.2	8.	9.5	9.3	9.6	10.	10.6	10.
New York.....	9.	7.5	9.6	8.3	10.3	8.5	8.3	9.	10.7	10.
New Jersey.....	9.8	9.5	10.5	9.2	9.8	9.6	9.	10.	10.	10.
Pennsylvania.....	10.1	9.	10.	9.6	13.	10.	9.	10.	10.3	10.
Delaware.....	11.	10.	13.	9.5	7.5	7.5	-----	-----	10.	10.
Maryland.....	10.5	10.	11.	10.3	11.	10.	10.	9.3	10.3	10.2
Virginia.....	8.	9.5	14.	10.	10.3	10.5	9.4	8.	9.3	7.5
North Carolina.....	7.2	9.	10.	9.8	10.	9.7	12.	9.	9.2	9.
South Carolina.....	4.	6.4	2.3	9.	7.	8.5	5.	10.	7.6	5.6
Georgia.....	5.1	7.5	7.5	8.5	8.5	10.2	13.	9.2	8.	6.6
Florida.....	7.	9.2	-----	-----	8.2	9.	-----	-----	4.3	5.8
Alabama.....	6.5	7.4	7.8	9.6	8.6	10.	19.7	10.5	7.8	8.2
Mississippi.....	4.1	7.2	8.2	8.8	9.3	10.	10.4	9.2	5.3	5.5
Louisiana.....	2.5	6.4	4.	10.	7.	7.	15.	9.	5.5	2.2
Texas.....	12.3	10.5	15.3	12.	14.4	12.	13.	10.	11.7	12.
Arkansas.....	6.5	9.6	19.	11.	6.3	10.7	14.4	10.3	8.8	7.
Tennessee.....	9.	9.7	11.3	9.5	12.7	11.	10.6	8.	9.8	9.8
West Virginia.....	12.	10.3	11.6	10.3	12.4	9.	11.3	10.	10.5	10.1
Kentucky.....	11.4	10.4	10.6	9.8	12.8	11.4	11.4	10.5	10.	9.8
Missouri.....	9.	8.4	9.	9.	9.3	9.6	8.5	8.1	9.2	10.1
Illinois.....	8.8	7.6	7.8	9.	8.7	8.6	9.3	9.7	10.	10.
Indiana.....	11.	9.1	9.9	10.2	10.7	8.5	9.6	10.2	10.	10.
Ohio.....	10.6	8.8	11.1	10.1	10.3	7.5	9.8	10.2	10.4	10.1
Michigan.....	9.2	7.8	9.9	8.4	9.2	8.9	10.2	9.7	10.2	10.3
Wisconsin.....	7.	6.	6.9	7.2	8.	8.4	8.8	9.1	9.6	9.8
Minnesota.....	6.	4.8	6.4	5.9	8.3	9.	9.	7.5	9.1	9.5
Iowa.....	8.3	6.6	8.	7.9	8.2	8.7	9.3	9.3	10.1	9.7
Kansas.....	9.8	9.4	10.	9.7	8.8	10.2	10.1	9.7	10.5	10.2
Nebraska Territory.....	8.4	7.4	7.4	9.7	7.	8.1	12.2	9.	12.	10.
Utah Territory.....	11.	10.5	9.	9.4	11.7	10.2	10.	10.	11.	10.3
Colorado Territory.....	14.	9.	10.	10.	17.	14.	-----	-----	15.	15.

Table showing the condition of the crops, &c.—Continued.

States.	Average crop of hay compared with 1865.	Quality of same.	Average crop of beans compared with 1865.	Average crop of buckwheat compared with 1865.	Average crop of flax compared with 1865.	Average indicated crop of cotton compared with 1860.	Average indicated crop of sugar cane (not sorghum) compared with 1860.	Quantity of grapes compared with an average crop.	Quantity of apples compared with an average crop.	Quantity of pears compared with an average crop.
Maine.....	7.1	9.7	10.	10.3	9.	.....	.....	9.	10.2	9.3
New Hampshire.....	8.4	10.	9.	10.2	10.	.....	.....	7.5	7.	6.6
Vermont.....	9.	9.6	9.	10.7	10.	.....	.....	7.	7.3	7.3
Massachusetts.....	8.8	10.	10.	11.6	.....	.....	.....	7.3	7.4	9.5
Rhode Island.....	7.	9.5	8.5	.....	.....	.....	.....	7.	5.2	10.2
Connecticut.....	9.	10.3	10.	11.6	10.5	.....	.....	7.4	7.	9.6
New York.....	9.	9.7	9.	11.7	9.6	.....	.....	7.3	6.7	7.
New Jersey.....	7.6	10.3	9.4	11.	7.5	.....	.....	7.2	9.	8.2
Pennsylvania.....	8.	10.5	9.4	13.5	10.	.....	.....	7.	7.	8.
Delaware.....	8.	10.	10.	11.	7.5	.....	.....	6.	10.	7.
Maryland.....	9.	9.7	10.	12.1	9.6	.....	.....	7.	9.	9.4
Virginia.....	6.5	9.	8.	12.	10.5	11.5	.....	7.4	5.4	5.
North Carolina.....	9.	10.	8.7	8.1	9.5	6.	10.	7.	7.7	7.1
South Carolina.....	7.	10.	7.	3.	.....	2.8	3.	4.5	5.1	3.5
Georgia.....	10.6	10.3	8.	9.5	10.	3.	9.	5.4	7.5	7.
Florida.....	10.	10.	.....	.....	.....	5.5	7.2	.....	.....	.....
Alabama.....	18.	10.3	8.	.....	12.	2.3	3.	5.2	9.8	8.1
Mississippi.....	8.5	10.	9.	10.	10.	2.4	10.	6.8	7.1	7.
Louisiana.....	4.5	9.2	.....	.....	.....	1.4	2.	5.5	5.	2.5
Texas.....	13.4	13.	13.3	.....	.....	7.	11.5	12.	18.5	16.4
Arkansas.....	9.8	9.	5.2	10.	.....	5.	.....	9.	11.4	8.4
Tennessee.....	9.	10.	9.2	9.2	10.3	5.	.....	7.2	12.	10.5
West Virginia.....	8.8	9.2	10.3	12.8	11.	10.	.....	9.	3.9	4.6
Kentucky.....	9.1	9.3	10.1	10.7	9.7	9.8	.....	9.	6.7	6.5
Missouri.....	11.9	11.7	8.9	9.4	9.6	9.6	.....	9.	9.1	8.9
Illinois.....	9.	10.6	9.2	9.5	10.1	9.	.....	9.	10.2	9.6
Indiana.....	8.7	10.8	9.6	14.8	10.4	10.	.....	7.3	9.1	7.9
Ohio.....	9.1	10.5	10.1	12.8	10.6	.....	.....	7.9	10.1	8.2
Michigan.....	9.9	10.2	9.3	11.5	9.3	10.	.....	7.9	7.2	6.8
Wisconsin.....	10.	9.7	8.6	8.1	9.1	.....	.....	9.9	8.7	9.2
Minnesota.....	11.	10.2	9.	8.6	10.3	.....	.....	7.9	9.5	7.5
Iowa.....	11.	10.2	9.4	9.5	10.1	.....	.....	9.4	10.2	9.1
Kansas.....	10.4	10.6	9.3	8.4	10.2	7.2	.....	10.9	11.3	12.1
Nebraska Territory.....	9.7	10.7	8.7	10.5	14.	.....	.....	9.3	10.	10.
Utah Territory.....	12.2	10.3	10.	10.2	10.5	.....	.....	9.5	8.5	10.5
Colorado Territory.....	10.2	11.	12.4	10.5	.....	.....	.....	.....	.....	.....

METEOROLOGY.

OCTOBER, 1866.

Table showing the highest and lowest range of the thermometer, (with dates prefixed,) the mean temperature, and amount of rain, (in inches and tenths,) for October, 1866, at the following places, as given by the observers named. The daily observations were made at the hours of 7 o'clock a. m. and 2 and 9 p. m.

[Compiled in the Department of Agriculture from the reports made by observers for the Smithsonian Institution.]

Place.	County.	Observer's name.	Date.	Max.	Date.	Min.	Mean.	Rain.
MAINE.								
				o		o	o	<i>In.</i>
Steuben	Washington	J. D. Parker	8	70	29	26	44.5	2.00
Barnard	Piscataquis	Edwin Pitman	2, 8, 20	66	26	20	44.3	3.17
West Waterville	Kennebec	B. F. Wilbur	8	72	26	22	48.1	4.26
Gardiner	do	R. H. Gardiner	8	70	26	26	47.4	2.59
Lisbon	Androscoggin	Asa P. Moore						4.10
Webster	do	Almon Robinson	8, 20	70	26	24	45.7	-----
Rumford Point	Oxford	Waldo Pettingill	8, 21	70	26	18	46.1	2.65
Cornish	York	Silas West	8	76	5, 26	26	47.3	2.54
Cornishville	do	G. W. Guptill	8	74	26, 29	28	48.6	2.50
Averages							46.5	2.98
NEW HAMPSHIRE.								
Stratford	Coos	Branch Brown	21	72	26	20	43.1	3.97
Shelburne	do	F. Odell	8	75	26	21	46.8	-----
North Barnstead	Belknap	C. H. Pitman	8	75	31	28	50.3	2.94
Concord	Merrimack	John T. Wheeler	8	75	25	29	48.7	2.03
Claremont	Sullivan	Arthur Chase	8	75	6, 26	26	48.0	3.30
Do	do	S. O. Mead	21	78	26	24	47.3	-----
Averages							47.4	3.06
VERMONT.								
Lunenburg	Essex	H. A. Cutting	16	81	4	16	48.8	1.95
Craftsbury	Orleans	James A. Paddock	2, 21	72	25, 26	23	44.8	2.00
Randolph	Orange	Charles S. Paine	8	74	5, 6	21	46.7	2.34
Middlebury	Addison	H. A. Sheldon	21	70	6, 25, 26	30	48.5	2.30
Brandon	Rutland	H. Buckland	3, 8	80	25	26	50.1	2.48
Wilmington	Windham	Rev. J. B. Perry	20	73	25	20	46.3	-----
Averages							47.5	2.21
MASSACHUSETTS.								
Kingston	Plymouth	G. S. Newcomb	8	80	26	32	52.0	3.21

Table showing the range of the thermometer, &c., for October—Continued.

Place.	County.	Observer's name.	Date.	Max.	Date.	Min.	Mean.	Rain.
MASSACHUSETTS—C'd.								
				o		o	o	<i>In.</i>
Topsfield	Essex	S. A. Merriam	8	75	5, 28	35	48.6	2.28
Lawrence	do	John Fallon	8	73	6	29	48.6	1.79
Georgetown	do	Henry M. Nelson	8	76	26	31	49.2	.....
Newbury	do	John H. Caldwell	8	75	25	30	48.9	.....
North Billerica	Middlesex	Rev. E. Nason	8	78	5, 6	28	49.2	.....
New Bedford	Bristol	Samuel Rodman	8	75	26	30	51.5	2.52
Do	do	Edward T. Tucker	8	76	26	28	51.4	2.87
Worcester	Worcester	Joseph Draper, M.D.	8	73	26	32	51.0	2.37
Mendon	do	J. G. Metcalf, M. D.	2	72	5	29	49.6	2.90
Lunenburg	do	G. A. Cunningham	8, 20	75	5	29	50.2	.....
Amherst	Hampshire	Miss S. C. Snell	8	73	5	27	49.5	3.38
Springfield	Hampden	J. Weatherhead	7, 8	79	26	27	51.0	2.76
Williams College	do	Prof. A. Hopkins	21	74	6	28	45.7	2.37
Averages	Berkshire						49.7	2.65
RHODE ISLAND.								
Newport	Newport	Wm. H. Crandall	17	77	26	27	50.6	2.34
CONNECTICUT.								
Pomfret	Windham	Rev. D. Hunt	8	72	26	28	49.6	3.13
Columbia	Tolland	Wm. H. Yeomans	3, 20, 21	76	5	32	52.7	.....
Middletown	Middlesex	Prof. John Johnston	8	76	26	28	51.5	2.98
Colebrook	Litchfield	Charlotte Rockwell	20	74	25, 26	28	49.5	.....
Groton	New London	Rev. E. Dewhurst	8	78	26	30	51.2	3.91
Averages							50.9	3.34
NEW YORK.								
Moriches	Suffolk	Mrs. C. Z. Hallock	8	83	6	39	57.4	4.14
South Hartford	Washington	G. M. Ingalsbe	21	79	5	27	52.2	1.07
Germantown	Columbia	Rev. S. W. Roe	1, 20	78	5	32	52.6	3.50
Fishkill Landing	Dutchess	T. McDonough	8	73	5, 6	33	52.5	3.03
Garrison's	Putnam	Thomas B. Arden	8	72	26	32	50.9	5.84
Throg's Neck	Westchester	Miss E. Morris	2, 8	82	5	36	55.4	.....
Deaf & Dumb Inst.	New York	Prof. O. W. Morris	8, 22	71	5	37	54.1	5.28
St. Xavier's College	do	Rev. Jno. M. Aubier	8	74	26	36	54.5	4.66
Columbia College	do	Prof. Chas. A. Joy	8	72	26	35	54.6	1.70
Flatbush	Kings	Eli T. Mack	1	81	26	34	57.0	3.49
Newburgh	Orange	Jas. H. Gardiner	1, 8, 20	74	26	36	54.8	2.19
Gouverneur	St. Lawrence	C. H. Russell	21	76	25	24	47.3	2.81
North Hammond	do	C. A. Wooster	8	75	5	24	49.2	4.14
South Trenton	Oneida	Storrs Barrows	20	74	5, 6	22	49.0	2.76
Depauville	Jefferson	Henry Haas	19	74	25	30	50.0	3.44
Theresa	do	S. O. Gregory						3.01
Oswego	Oswego	Wm. S. Malcolm	21	74	26	33	51.4	3.77
Palermo	do	E. B. Bartlett	21	77	5	22	48.5	4.30
Baldwinsville	Onondaga	John Bowman	21, 22	72	25	31	49.1	.....
Skaneateles	do	W. M. Beauchamp	8	71	5, 25	26	47.9	.....
Nichols	Tioga	Robert Howell	8, 20	78	6	29	50.2	.....
Geneva	Ontario	Rev. W. D. Wilson	20, 21, 22	78	5	30	54.7	1.88
Rochester	Monroe	M. M. Mathews, M.D.	21	76	5	31	52.6	1.22
Rochester Univ.	do	Prof. C. Dewey	20	77	5	29	51.0	1.24

Table showing the range of the thermometer, &c., for October—Continued.

Place.	County.	Observer's name.	Date.	Max.	Date.	Min.	Mean.	Rain.
NEW YORK—Con'd.								
Little Genesee.....	Allegany.....	Daniel Edwards....	21	77	5, 6	25	48.1	2.25
Buffalo.....	Erie.....	Wm. Ives.....	1	80	5	28	52.5	2.41
Averages.....							51.9	3.09
NEW JERSEY.								
Paterson.....	Passaic.....	Wm. Brooks.....	8	76	5, 6	33	55.1	5.35
Newark.....	Essex.....	W. A. Whitehead....	8	74	6	33	54.2	3.97
Trenton.....	Mercer.....	E. R. Cook.....	22	72	26	38	57.1	4.63
Burlington.....	Burlington.....	John C. Deacon.....	21	74	26	32	54.8	4.50
Moorestown.....	do.....	Thos. J. Beans.....	8	77	26	34	54.8	4.47
Mount Holly.....	do.....	M. J. Rhees, M.D....	22	73	6, 26	35	55.2	-----
Seaville.....	Cape May.....	Barker Cole.....	8	86	5, 25, 26	36	54.6	6.90
Dover.....	Morris.....	Howard Shriver.....	8	75	26	36	56.5	-----
Haddonfield.....	Camden.....	Samuel Wood.....	8	76	26	34	54.6	2.87
Greenwich.....	Cumberland.....	R. C. Sheppard.....	8	73	26	36	55.6	3.92
Averages.....							55.3	4.58
PENNSYLVANIA.								
Nyces.....	Pike.....	John Grathwohl....	20	79	5	18	49.4	2.40
Fallsington.....	Bucks.....	Ebenezer Hance.....	21	75	26	36	54.7	3.90
Philadelphia.....	Philadelphia.....	Pf. J. A. Kirkpatrick	8	75	5	38	56.8	3.54
Germantown.....	do.....	Thomas Meehan.....	2	79	6, 26	33	54.6	-----
Mooreland.....	Montgomery.....	Anna Spencer.....	8, 21	73	26	32	53.7	4.53
Dyberry.....	Wayne.....	Theodore Day.....	8	78	5	20	47.9	-----
North Whitehall.....	Lehigh.....	Edward Kohler.....	8	74	6	25	53.1	-----
Parkesville.....	Chester.....	F. Darlington.....	8	75	6	34	54.5	2.80
Stevensville.....	Bradford.....	J. Russell Dutton....	8, 21	79	5	22	50.1	2.19
Reading.....	Berks.....	J. Heyl Raser.....	1	73	5	34	54.3	-----
Ephrata.....	Lancaster.....	W. H. Spera.....	21	80	26	34	56.4	1.93
Mount Joy.....	do.....	J. R. Hoffer.....	20	80	6	39	55.8	-----
Harrisburg.....	Dauphin.....	John Heisely, M.D..	1	75	26	39	57.1	3.59
Lewisburg.....	Union.....	Prof. C. S. James....	8	75	6	31	51.7	4.50
Tioga.....	Tioga.....	E. T. Bentley.....	8, 9	80	6	24	51.5	2.25
Pennsville.....	Clearfield.....	Elisha Fenton.....	2	77	5	24	48.7	4.08
Connellsville.....	Fayette.....	John Taylor.....	21	77	25	28	51.3	-----
New Castle.....	Lawrence.....	E. M. McConnell....	1	75	5, 27	34	54.4	-----
Canonsburg.....	Washington.....	Rev. W. Smith, D. D.	8	82	25	28	51.9	4.06
Averages.....							53.0	3.32
MARYLAND.								
Woodlawn.....	Cecil.....	Jas. O. McCormick....	8	80	31	36	56.2	4.65
Catonsville.....	Baltimore.....	Grape & Ranlett....	1, 20, 21	68	5, 25	36	55.6	-----
Annapolis.....	Anne Arundel.....	Wm. R. Goodman....	3, 8, 9, 22	74	31	40	58.1	8.41
Averages.....							56.6	6.53
VIRGINIA.								
Lynchburg.....	Bedford.....	Chas. T. Meriwether..	17	76	26	41	53.1	-----
WEST VIRGINIA.								
Romney.....	Hampshire.....	W. H. McDowell....	7, 8, 19, 20, 21	82	31	30	-----	-----
NORTH CAROLINA.								
Statesville.....	Iredell.....	Thos. A. Allison....	3	80	25	26	56.1	4.00

Table showing the range of the thermometer, &c., for October—Continued.

[illegible]

Table showing the range of the thermometer, &c., for October—Continued.

Place.	County.	Observer's name.	Date.	Max.	Date.	Min.	Mean.	Rain.
MICHIGAN.								
Monroe City.....	Monroe.....	F. & E. Whelpley..	2, 7, 8, 21	72	31	33	54.0	2.94
State Agricult'l Col.	Ingham.....	Prof. R. C. Kedzie...	2, 18	73	5, 31	32	49.5	3.57
Litchfield.....	Hillsdale.....	R. Bullard.....	2	77	24	28	49.0	7.87
Grand Rapids.....	Kent.....	E. S. Holmes, D.D.S.	1	76	31	30	50.4	.....
Northport.....	Leelanaw.....	Rev. Geo. N. Smith..	1	78	31	28	49.7	.....
Holland.....	Ottawa.....	L. H. Streng.....	18	77	31	31	50.4	4.56
Ontonagon.....	Ontonagon.....	Edwin Ellis, M.D.	7	82	31	30	47.7	.....
Homestead.....	Benzie.....	George E. Steele...	7	75	31	32	48.7	.....
Averages.....							49.9	4.74
INDIANA.								
Richmond.....	Wayne.....	John Valentine.....	2	74	25	28	52.8	2.54
Aurora.....	Dearborn.....	George Sutton, M.D.	2	81	25	26	.....	1.52
Vevay.....	Switzerland.....	Chas. G. Boerner...	2	82	25	32	52.9	1.48
Muncie.....	Delaware.....	G. W. H. Kemper, MD.	2, 7, 8	77	24, 31	32	53.6	3.03
Spiceland.....	Henry.....	William Dawson.....	2, 7	78	24, 25, 31	31	53.5	1.70
Columbia City.....	Whitley.....	Dr. F. and Miss L. McCoy.	1, 2, 7	76	25	30	52.1	.....
Indianapolis.....	Marion.....	Mrs. Z. Butterfield, A. M.	2	80	24, 25, 31	29	53.3	2.01
Merom.....	Sullivan.....	Thomas Holmes.....	2, 7	77	25, 31	32	56.0	2.74
New Harmony.....	Posey.....	John Chappellsmith.	20	77	25, 31	35	56.7	0.98
Averages.....							54.6	2.00
ILLINOIS.								
Riley.....	McHenry.....	E. Babcock.....	7	75	31	22	49.8	2.72
Golconda.....	Pope.....	Wm. V. Eldredge...	7	91	27	29	65.2	0.87
Aurora.....	Kane.....	A. & E. D. Spaulding..	1	76	31	24	50.0	2.40
Sandwich.....	DeKalb.....	N. E. Ballou, M.D.	1, 6, 7	75	31	23	50.9	3.23
Ottawa.....	La Salle.....	Mrs. E. H. Merwin...	7	80	31	26	52.9	2.16
Winnebago.....	Winnebago.....	J. W. & Miss Tolman	1	77	31	21	49.5	2.86
Rochelle.....	Ogle.....	Daniel Carey.....	4	86	31	22	52.0	.....
Wyanet.....	Bureau.....	E. S. & Miss Phelps..	1	86	31	26	53.3	1.66
Tiskilwa.....	Bureau.....	Verry Aldrich.....	6	73	31	24	51.5	.....
Elmira.....	Stark.....	O. A. Blanchard.....	1	76	31	23	51.8	2.00
Peoria.....	Peoria.....	Frederick Brendel...	1	75	31	29	54.6	2.87
Springfield.....	Sangamon.....	G. M. Brinkerhoff...	2	82	31	34	55.2	.....
Loami.....	do.....	Timothy Dudley.....	8	78	31	25	53.6	4.50
Dubois.....	Washington.....	Wm. C. Spencer.....	6	80	31	24	50.7	3.35
Galesburg.....	Knox.....	Pf. W. Livingston...	1	76	31	23	51.0	2.00
Manchester.....	Scott.....	Dr. J. & C. W. Grant	17	80	31	26	56.0	5.98
Mount Sterling.....	Brown.....	Rev. A. Duncan.....	1	77	31	26	55.9	.....
Augusta.....	Hancock.....	S. B. Mead, M.D.	1	74	31	27	56.0	3.83
Averages.....							53.3	2.89
WISCONSIN.								
Manitowoc.....	Manitowoc.....	Jacob Lips.....	1	80	31	28	49.6	2.33
Plymouth.....	Sheboygan.....	G. Moeller.....	1	84	24	27	49.3	4.10
Milwaukee.....	Milwaukee.....	I. A. Lapham, LL.D	1	78	31	27	50.2	2.76
Do.....	do.....	Carl Winkler.....	1	78	31	28	51.3	3.39
Geneva.....	Walworth.....	Wm. H. Whiting.....	7	76	31	26	50.7	.....
Delavan.....	do.....	Leveus Edgely.....	1	76	31	24	49.5	2.05
Waupaca.....	Waupaca.....	H. C. Mead.....	1	83	31	25	50.3	.....
Embarrass.....	do.....	E. Everett Breed....	1	84	24	24	48.9	3.17
Rocky Run.....	Columbia.....	W. W. Curtis.....	1	80	31	22	49.5	2.25

Table showing the range of the thermometer, &c., for October—Continued.

Place.	County.	Observer's name.	Date.	Max.	Date.	Min.	Mean.	Rain.
WISCONSIN—Cont'd.								
Beloit	Rock	H. D. Porter	1	75	31	23	49.9	1.41
Baraboo	Sauk	M. C. Waite	1	84	31	24	50.7	4.00
Averages							50.0	2.83
MINNESOTA.								
St. Paul	Ramsey	Rev. A. B. Paterson	6	83	31	18	49.0	2.67
Minneapolis	Hennepin	Wm. Cheney	1	86	31	18	49.2	1.94
Sibley	Sibley	C. W. and C. E. Woodbury	1	86	31	16	47.8	3.00
New Ulm	Brown	Charles Roos	1, 6	86	31	19	51.8	0.66
Averages							49.5	2.07
IOWA.								
Davenport	Scott	Sydney Smith	1, 18	75	31	26	52.3	1.78
Dubuque	Dubuque	Asa Horr, M. D.	1	79	31	22	51.2	2.49
Monticello	Jones	M. M. Moulton	1	80	31	20	50.8	3.41
Fort Madison	Lee	D. McCready	1	76	31	21	53.1	2.51
Guttenburg	Clayton	Jas. P. Dickerson	1	84	31	18	48.8	.....
Ceres	do	J. M. Hagensiek	6, 12	78	31	20	51.2	.....
Manchester	Delaware	Allen Mead	1	82	31	17	47.7	2.49
Mount Vernon	Linn	Prof. A. Collins	1	80	31	20	51.5	.....
Iowa City	Johnson	Prof. T. S. Parvin	1	82	31	20	53.1	4.67
Independence	Buchanan	Mrs. D. B. Wheaton	1	82	31	18	51.4	2.70
Do	do	D. S. Deering	1	76	31	21	50.3	.....
Waterloo	Black Hawk	T. Steed	1, 6	80	30, 31	28	53.0	.....
Iowa Falls	Hardin	N. Townsend	3	74	31	19	50.8	1.17
Des Moines	Polk	Rev. J. A. Nash	6	81	30, 31	26	51.5	0.50
Algona	Kossuth	Philip Dorweiler	1, 6	84	31	18	50.0	.....
Fontanelle	Adair	A. F. Bryant	1, 6	81	31	18	52.5	1.88
Harris Grove	Harrison	Jacob F. Stern	12	83	31	20	55.0	.....
Averages							51.4	2.36
MISSOURI.								
St. Louis	St. Louis	G. Engelmann, M.D.	20	80	31	31	57.7	2.01
St. Louis University	do	Rev. F. H. Stuntebeck	20	79	31	33	58.4	2.38
Allenton	do	A. Fendler	2	78	31	23	52.8	2.92
Union	Franklin	Miss Belle Moore	2	80	31	27	55.7	2.40
Harrisonville	Cass	John Christian	1, 2, 7, 10, 12, 13	80	31	26	57.2	7.78
Easton	Buchanan	P. B. Sibley	1, 5, 13	84	31	21	54.8	2.47
Averages							56.1	3.33
KANSAS.								
Leavenworth	Leavenworth	J. Stayman, M. D.	5	83	31	19	53.8	1.55
Olatha	Johnson	W. Beckwith	2, 4, 5, 11	80	31	21	55.2	3.90
State Agr. College	Riley	Prof. B. F. Mudge	13	88	23, 31	30	57.8	0.43
Council Grove	Morris	Abner Woodworth	12, 13	86	31	28	56.4	2.53
Averages							55.8	2.10
NEBRASKA.								
Elkhorn	Washington	John S. Bowen	12	84	24, 30	24	54.1	.....
Bellevue	Sarpy	Rev. Wm. Hamilton	1	80	31	23	48.2	0.34
Averages							51.2	.....
UTAH.								
Gt. Salt Lake City	Great Salt Lake	W. W. Phelps	2, 3	82	20	32	55.6	1.80

NOTES OF THE WEATHER—OCTOBER, 1866.

FROM THE SMITHSONIAN INSTITUTION.

Wolfville, Nova Scotia.—October 4.—First appearance of snow in the air. 31st.—Gale last night.

Lisbon, Maine.—The gale of the 30th commenced here at 3 p. m. of the 29th, with a light fall of hail and rain, and wind light from eastward, hauling to southeast and south. At 9 p. m. southeast fresh breezes and rain, increasing till 2 p. m. of the 30th, when the gale reached its height here, lasting till 4 p. m., and then moderating. It was the severest gale known here for many years. Ice on the 26th, 27th, 28th, and 29th.

Cornish, Maine.—October 30.—Very severe storm of wind and rain.

Williamsburg, Maine.—October 4.—Ground frozen half an inch. 27th, first snow of the season—depth one inch. 29th, two inches of snow fell.

West Waterville, Maine.—October 27.—Slight fall of snow and sleet last night. 29th, snow and sleet from 4 p. m. to 7 p. m., then rain till in night of the 30th. Very heavy storm; more water fell than in any one storm during the time of these observations—ten years.

Rumford Point, Maine.—Three inches of snow fell on the 27th, and two inches on the 29th.

Gardiner, Maine.—The storm of the 30th began at 3 p. m. on the 29th; height of the gale from 3 to 5 p. m. on the 30th.

Concord, New Hampshire.—The southerly storm raged with great violence for thirty hours, the wind blowing strongly from the southeast, and the clouds moving with remarkable rapidity. The Merrimack river rose above its banks, which has not occurred before in about two years.

Shelburne, New Hampshire.—Snow from 3 p. m. of the 26th to 9 a. m. of the 27th, the first that has fallen in the valleys.

Claremont, New Hampshire.—Ice formed one-fourth of an inch on the morning of the 5th, and half an inch on the 26th. Snow seen on Ascutney mountains on the 27th.

Stratford, New Hampshire.—The month was a very pleasant one; there was but little rain before the heavy storm of the 29th. Two inches of snow fell on the 27th.

Craftsbury, Vermont.—This has been the warmest October since 1854; October of last year was the coldest in the same period.

Wilmington, Vermont.—A very heavy storm occurred on the 29th and 30th, the rain much of the time falling in torrents. At 1 p. m. on the 30th the water was higher than known to be here for more than fifty years, and many bridges and fences were swept away.

Lunenburg, Vermont.—October was remarkably fair and warm, and really dry. Some bushes have leafed out the second time, and strawberries blossomed.

New Bedford, Massachusetts.—Trees were little changed till the frost of the 5th. At the end of the month grass lots were still green, and the feed unusually good for the season.

Mendon, Massachusetts.—October 30.—Streams lowest for the year so far.

Lunenburg, Massachusetts.—October 4.—First heavy frost last night.

Newport, Rhode Island.—October 26.—Ice this morning about a quarter of an inch thick. 30th.—High wind this morning, which increased to a gale from noon to 1 p. m., demolishing one hundred and fifty feet of the depot on Long wharf; very high tide; wind moderate at sunset.

Providence, Rhode Island.—The mean temperature of October (50.2°) was

two-tenths of a degree below the average of the month for thirty-five years. The amount of rain (2.78 inches) was fifty-seven hundredths of an inch below the average of thirty-five years. The warmest October in that period was in 1835, the coldest in 1836. A very heavy gale from the southeast commenced after midnight of the 29th and continued until about 2 p. m. of the 30th, with incessant rain. At 1 p. m. the tide in the river overflowed the wharves, covering several of the streets. It is believed that the tide has not been so high since the great gale of 1815.

Pomfret, Connecticut.—The first killing frost was on the night of the 4th.

Groton, Connecticut.—October 4.—Quite a frost this morning. 5th.—Water froze this morning.

Colebrook, Connecticut.—October 4.—Ground slightly frozen this morning.

North Hammond, New York.—October 4.—Heavy frost; snow flakes fell at intervals during the afternoon. 5th, very hard frost. 22d, at 11 a. m. wind blowing a violent gale. 26th, at 7.15 a. m. snow enough to whiten the ground.

Theresa, New York.—October 26.—Ground white with snow.

Palermo, New York.—October 4.—First black frost, killing vegetation generally. 17th and 18th, thunder in the northwest, on both days, between 10 a. m. and 1 p. m. 24th.—No rain since the 27th of September until to-day; wild geese passing southward. 31st, snow fell two inches in depth.

Nichols, New York.—October 5.—Temperature at 5½ a. m., 20°.

Rochester, New York.—October 5.—A very hard frost this morning, killing all tender vegetables, and forming ice an eighth of an inch thick. 31st, the mean temperature of the month was three degrees above the average of thirty years, and only four times in that period has the month been warmer. The warmest October was in 1839, the coldest in 1843.

New York, New York.—October 29.—Violent southeast wind p. m., and at 9.40 rain, which both continued till the 30th, at 9.35 a. m., when it ceased and was followed by a thick fog till 10.50, when it suddenly disappeared and the wind came west very light.

Buffalo, New York.—October 29.—Raining before daylight, continuing moderately all day and evening. 30th, raining from 4.30 p. m. to 5.30 p. m. 31st, scattering flakes of snow at 4.30 p. m.

Geneva, New York.—October was uncommonly warm, pleasant, and dry. The mean temperature was five degrees above the general average for the month, and the rain was nearly an inch and three-tenths less than the usual amount. From the 1st to the 24th of the month there was not a drop of rain, and until the 30th less than half an inch.

Little Genesee, New York.—October 25.—Roofs white with snow.

Trenton, New Jersey.—October 12.—Very strong wind all night, doing much damage to trees, old roofs, &c. 22d, light thunder-shower from the west, about 5.30 p. m.; much lightning, but little thunder. 26th, first ice, about as thick as writing paper.

Newark, New Jersey.—The mean temperature of October was higher by more than a degree than the average of the month for the last twenty-two years.

Mount Holly, New Jersey.—October 5.—First frost in the town this morning. 6th, very heavy hoar frost. 12th, faint flashes of lightning and distant thunder, from 10½ p. m. to midnight. Began to rain at 11 p. m., and rained heavily all night.

Moorestown, New Jersey.—October 22.—Thunder-shower from 5 to 6 p. m.

Byberry, Pennsylvania.—October 5.—Very hard frost last night; ice in some places; ground considerably frozen. 6th.—Very heavy white frost this morning; fields as white as snow.

Dyberry, Pennsylvania.—October was unusually clear and pleasant, with scarcely any rain before the 29th. Streams very low, and some wells and springs began to fail.

Reading, Pennsylvania.—October 4.—Heavy frost along the Schuylkill river. 5th.—Ice an eighth of an inch thick in buckets. 12th.—Rained most of the past night, and steadily the forepart of the day. Violent winds late in the afternoon and evening. Commenced clearing at 8.30 p. m., with strong gale from northeast. Rained again at night, and till 8.30 a. m. the 13th.

Stevensville, Pennsylvania.—October 24.—Snow-squall about 3 p. m., the first this season.

Tioga, Pennsylvania.—October 6.—Thermometer at 5 a. m., 22° ; ice formed half an inch thick. 9th, diffuse lightning in the south at 9 p. m.

Philadelphia, Pennsylvania.—October 5.—First hoar frost observed. 6th, very heavy hoar frost. 11th to 13th, northeast storm; rain very heavy on the morning of the 13th. Very heavy and continuous rain from 8 p. m. on the 29th till 8 a. m. on the 30th.

Lewisburg, Pennsylvania.—Ice on the mornings of the 5th and 6th.

Grampian Hills, Pennsylvania.—There were two heavy in October, one on the 11th and 12th, the other on the 29th. No great storms of wind, nor thunder or lightning. No snow to show upon the ground until the morning of the 31st, and it then soon melted off.

Canonsburg, Pennsylvania.—October 31.—A light fall of snow.

Woodlawn, Maryland.—October 5.—Ice; ground frozen.

Wilkinsville, South Carolina.—October 10.—Rather heavy thunder in north, northwest, and west; heavy shower from 2.30 to 5.20 p. m. 15th, wild pigeons going westward. 22d, thunder shower from 4 to 4.30 p. m. 24th, light frost, the first observed; killed tender vegetation in low, damp places. 25th, white frost; all tender vegetation killed. 29th, general and violent rain from 1.30 a. m. to 4 p. m.

Lake City, Florida.—October 4.—Thunder in the south from 2 to 2.30 p. m. 29th, lightning in the east from 7 to 8 p. m.; and in the west, between 10.30 and 11.30 p. m. Rain recorded only on the 5th, 6th, and 29th.

Austin, Texas.—Rain only on the 15th, 17th, and 18th, and very light.

Helena, Arkansas.—Rain fell on five days in October; the heaviest were on the 21st, 2.48 inches, and on the 29th, 1.80 inch.

Clarksville, Tennessee.—October 23.—A very light white frost this morning. 24th, heavy white frost, killing all tender garden vines, the first killing frost of the season; a very thin skim of ice in exposed places. 25th, heavy white frost and skim ice an eighth of an inch thick.

Louisville, Kentucky.—The first visible frost was on the 22d of September; the first killing frost on the night of the 23d of October.

Chilesburg, Kentucky.—October 9.—Thunder-storm, with hail at 8 p. m.; it came from the southwest. White frost on the 23d, 24th, 25th, and 27th, the first here this season, though in low situations it appeared earlier. All tender vegetables were killed on the 24th, and on the 25th ice formed.

Norwalk, Ohio.—No frost during the month sufficient to kill vines.

College Hill, Ohio.—October 24 and 25.—Killing frost; ice formed on water in a bucket. 30th, ice on the borders of the pond.

Marion, Ohio.—October 5.—First frost of the season, but it did not destroy garden vegetables. 9th, thunder and lightning at every point, continuing for a great part of the day and following night. 21st.—The high wind, which in other places amounted to a hurricane, came on about 11 o'clock p. m. of the 20th, and continued high for four or five hours, dying away at 5 to 6 o'clock a. m. 25th, another frost, which did little injury to garden vegetables. 31st, a slight snow at about 4 a. m.

Urbana, Ohio.—October 24.—A very few snow flakes yesterday at 6½ p. m., and to-day at 7 a. m. and 2 p. m. 25th, heavy white frost; ice, the first this autumn.

Kelley's island, Ohio.—October 31.—Coldest morning of the month; frost

reported in some localities back from the lake, none found near the lake; tomato vines as green as at any time during the season, fruit daily ripening.

New Lisbon, Ohio.—October 10.—Rain, thunder, and lightning last night. 24th, spits of snow; wild geese going south. 27th, hard frost; ice.

Toledo, Ohio.—October 6.—Hard frost in the morning. 9th, some severe showers in p. m., with thunder and lightning. 15th, 16th, 17th, severe frost each morning. 22d, rain 12½ a. m., with a gale of wind, which veered around to the west-southwest, and blew violently all day. 23d, 24th, and 31st, flurry of snow each day.

Litchfield, Michigan.—October 23.—Snow from 1.30 p. m. to 4 p. m., one inch in depth by side of building; first snow this season.

Kalamazoo, Michigan.—October 31.—Half an inch of snow this morning.

Holland, Michigan.—October 3 to 6, and 14 to 17.—Frost on each of these mornings. Snow fell on the 23d, 24th, 25th, 26th, 30th, and 31st.

Northport, Michigan.—October 31.—Snow fell two inches deep last night, lying that deep at 7 a. m. this morning.

Grand Rapids, Michigan.—October 22.—Rain fell in torrents last night, and the wind blew a strong gale, part of the time a violent gale. 24th, heavy frost this morning, the first to kill vegetables in the garden of the observer.

Columbia City, Indiana.—October 22.—A severe storm passed over the town last night, beginning at 10 p. m. and ending at 5 a. m. this morning. It was at its height at from midnight to 1 a. m.

Muncie, Indiana.—The wind during the night of the 21st was quite high, but no serious damage was done.

Vevey, Indiana.—October 21.—A violent gale from the southwest, approaching to a hurricane, passed over this place at night. It reached its maximum at 11.30 p. m., after which it decreased in violence, and quieted down to a fresh breeze at 4 a. m. of the 22d. A heavy shower of rain fell during the storm. 25th, ice an eighth of an inch thick on a basin of water this morning.

Merom, Indiana.—October 21.—After raining nearly all day, accompanied occasionally with gusts of wind from southwest, at precisely 7 o'clock a fearful storm, accompanied by lightning and thunder, burst suddenly from the southwest. Large forest trees and fruit trees were blown down, and houses were unroofed.

Spiceland, Indiana.—October 23.—Sweet potato and tomato vines are still green; no effects of frost. A few very light flakes of snow fell this evening. 25th, first killing frost. 30th, a few light flakes of snow between 3½ and 4 p. m.

Aurora, Illinois.—October 31.—The leaves remain quite green on apple, pear, and cherry trees.

Augusta, Illinois.—October 20.—Shower, with thunder and sharp lightning, from 9½ to 10 p. m., then turned to a settled rain. 21st, shower, with heavy thunder and sharp lightning, at 4.45 p. m. The lightning struck in several places. 22d, light white frost this morning on boards in low places. 23d, ice formed on still shallow water; first hard frost.

Golconda, Illinois.—October 21.—Heavy gust of wind at 8 p. m. 28th.—At about 8 p. m. the wind was blowing gently from the southeast; it had been raining up to 7, when it cleared off. At 8½ a black cloud suddenly came up from northwest, and at 9 p. m. for about ten seconds the wind blew almost a hurricane. It blew down and moved several houses, but was so quickly over that not much damage was done. It was accompanied with heavy rain, and in fifteen minutes all was clear again.

Sandwich, Illinois.—October 8.—Wild geese in large numbers going north.

Mount Sterling, Illinois.—October 25.—A slight thunder storm from the west. 22d and 23d, a severe thunder storm on each day from the south from 4½ p. m. to 6½ p. m. 24th and 25th, ice formed in many places. 28th, 29th, 30th, large flocks of wild geese, flying high, passing from northeast to south-

west. As late as 9 p. m. they were heard high in the air. 31st, ground generally froze on the surface last night.

Ottawa, Illinois.—October 9.—Wild geese flying south. 18th, 19th, wild geese flying east. 21st, rain and high wind; no damage done at this station. 22d, wild geese very much disturbed, and flying east in large numbers. 23d, first snow; it did not cover the ground. 24th, first ice, a sixteenth of an inch thick. 30th, wild geese flying east.

Union, Missouri.—October 21.—At 4 p. m. a hard storm of rain from the west; for five minutes the wind blew a strong gale. 31st, first frost to mark tender vegetation.

Allenton, Missouri.—October 21.—At 8.20 a. m. thunder at a distance; 3.45 to 3.55 p. m. thunder and lightning, with a gale from the south, changing to a southwest and then to a northwest gale by 6 p. m. 28th, faint thunder and lightning from 6 to 6.15 a. m.

St. Louis, Missouri.—October 21.—At 4½ p. m. a furious gale from the west or west-southwest followed quite suddenly the southeast wind, with rain, thunder and lightning, and some hailstones. It lasted only eight or nine minutes, but was most destructive during that time in a southwestern and northeastern line, from Lafayette Park to the Polytechnic Institute. (The observers at St. Louis give details with regard to this storm.)

Plymouth, Wisconsin.—October 23.—First snow; one inch deep in the forenoon.

Milwaukee, Wisconsin.—October 21.—Barometer lowest at 11 p. m., 28.571 inches, reduced to 32 degrees; wind changed at 11¼ p. m. 23d, first snow.

Baraboo, Wisconsin.—October 16.—Thin ice early this morning. Snow on the 22d, 24th, and 27th. Ground frozen on the 31st.

Embarrass, Wisconsin.—October 2 to 6.—Wild geese going south. 20th, wild geese and ducks flying south in large flocks.

St. Paul, Minnesota.—The mean temperature of the month was higher than that of any other October in the eight years during which this record has been kept, and the amount of rain was greater than in other Octobers in the same period, except in 1860 and 1861.

New Ulm, Minnesota.—October 23.—Ice an eighth of an inch thick. 27th, very good sleighing in the forenoon, but by 2 p. m. rain set in and destroyed it.

Dubuque, Iowa.—October 31.—Ice and abundant white frost in the morning, the first frost which has been sufficient to kill tender foliage in the vicinity of the Mississippi river.

Monticello, Iowa.—October 5.—Large flock of wild geese flying south. 27th, first snow-storm, commencing at 1 a. m. and ending at 4 a. m.; fell one inch; began raining at 10 a. m., and the snow was all gone by noon.

Waterloo, Iowa.—October 27.—About two inches of snow fell last night, but it all melted away during the day.

Ceres, Iowa.—October 25.—First snow; it began at 1 a. m., and fell three inches deep. 27th, ice half an inch thick. 31st, ice on still water an inch thick.

Leavenworth, Kansas.—The mean temperature of October was 1.8 degree below the average of five years, and the amount of rain was 2.05 inches less than the average for the same period.

Council Grove, Kansas.—October 19.—White frost, and skim of ice in a bucket of water. 20th, a storm of wind and rain, almost a hurricane. 22d, ice on standing shallow water.

Elkhorn City, Nebraska.—The month was the warmest and probably the most windy of the past eight years. The frosts have been very light for the season, the ground only twice slightly frozen on the surface and but three days, upon which moisture fell; once a thin and almost imperceptible snow.

Great Salt Lake City, Utah.—October 14.—Snow. 19th.—Four inches of snow fell in the night.

New York Botanical Garden Library



3 5185 00287 2057

